32 PLAYSTATION GAMES: Every available PlayStation title tested and rated PlayStation ■ Saturn ■ 3D0 ■ Ultra 64 ■ PC CD-ROM ■ 32X ■ Jaguar ■ Arcade ■ Online 224 Pages GENERATIO December Leading edge computer and video games 50 MANY **32-***8***/7** VIDEOGAME SYSTEMS TO CHOOSE FROM! BUT WHICH IS THE Don't panic. Our 32-page report details the pros and cons of each next generation system, page 36 SEGA SATURN: 30 games reviewed & rated for Sega's new 32-bit videogame system



Game System Wars

Soon there will be **11** next generation **game systems** competing in the US. The market can't support half that many — some will inevitably fail. To the victors goes control of the future of the multibillion dollar gaming industry. To the losers, mention in a **collectors' fanzine** in 10 years — maybe. The question is, of course, which systems will emerge as victors?

Which system should you buy?

This 34-page special round-up of game hardware is the result of more than a year's **exhaustive research**. We have interviewed hardware designers to find out what's really under the hood. We've visited corporate headquarters to inspect development labs. We've grilled company presidents. We've garnered the opinions of hundreds of game developers in the US, Europe, and Japan for their expert opinions. We've interviewed Wall Street analysts for corporate background.

And we've played a mountain of games.

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December 1995

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NEXT Generation (ISSN# 1078-9693) is published monthly by Imagine Publishing, Inc, Suite 210, 1350 Old Bayshore Highway, Burlingame, CA 94010, USA. Highway, Burnigame, CA 94011, U.S.A. Application to mail at second-class postage rates pending at Burlingame, CA, and at additional mailing offices, POSTMASTER send changes of address to NEXT Generation, PO Box 53680, Boulder, CO 80322-3680. Newsstand distribution is handled by Curtis Circulation Company Subscriptions: one year (12 issues) US \$34. Canada: \$48. Foreign \$58. Canadian price includes postage and GST (GST# R 128 220688)

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Produced in the United States of America.

NEXT Generation shares editorial with the UK-based magazine EDGE. Special thanks to "Big Friend.", Blur, and "Big Melissa". No thanks to High Freek and say, where's that Super Grass CD?



The way games ought to be

Chris Crawford has been programming games since the dawn of the home computing revolution. His newsletter is one of the most widely respected in the industry. So why won't anyone listen to what he has to say? The exclusive **NEXT Generation** interview



Which System is the Best?

Eleven systems will be vying for your hardware dollar in 1996, but not all those competitors will be around by '97. Who's got what it takes and who's going to be watching from the sidelines next Christmas? The take-no-prisoners NEXT Generation report

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Zombie's Zero Population Growth fuses pop-art with arcade action • Anark's Galapagos combines artificial life with next generation gameplay • Plus CRY.SYS, X-COM, Toshinden 2, and 12 more



Finals: 62 game reviews

In the end it all comes down to the games, so check out our unbiased, authoritative reviews section for the complete low-down on all the latest software for 32-bit and 16-bit systems

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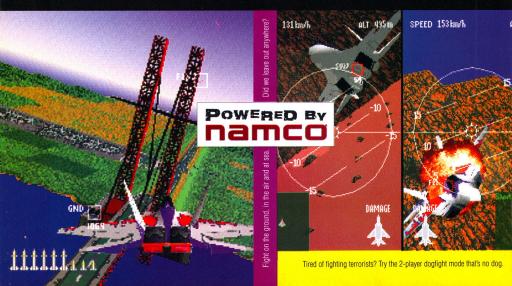
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SOURCES WITHIN THE PENTAGON CONFLICT WILL OCCUR SOME



PREDICT THE ULTIMATE AERIAL WHERE OVER THE MIDDLE EAST.

WE SEE IT HAPPENING MUCH CLOSER TO HOME.

Obviously, the Defense Department isn't familiar with Air Combat." The action fighter pilot simulator for the PlayStation" that transforms you into a mercenary on a mission to recapture a

force, buying and selling 13 different types of fighter jets. Increase your chances of victory, not to mention survival, by hiring extra wingmen. Then depart on any of 17 deadly missions, all

world sieged by terrorists. Build your own air

without going anywhere near the Middle East.





Do you rate Virtua Fighter 2 highly? Do you think Wipeout is cool? Chris Crawford doesn't, he dismisses them merely as "airy foam." So what's the alternative? What is the real future of interactive entertainment? NEXT Generation talked with computer gaming's self-proclaimed "Prophet in the Desert" to find out...



C

hris Crawford thinks more about computer and video gaming than anyone else **NEXT Generation** has ever encountered. As the founder of

the highly successful Computer Game Developers' Conference, an active game programmer since 1974, and the editor of Interactive Entertainment Design, a monthly selection of essays for game developers, he is widely respected as one of the brightest minds in the business.

But Crawford is also controversial. He is a marcirck, a has-been, a genius, an incurable idealist, or the savior of gaming, depending on whom you talk to. The fact is that everybody has an opinion. And working alone and in exile from the mainstream gaming community, Crawford is forging a new frontier of gaming.

Gaming in 1995

NG: What is your perception of the game industry in 1995?"

Chris: I think the key word is maturing. We're definitely out of the Wild West stage of the early '80s. And maturing means good things and bad things. The good things are that a lot of the business relationships are more stable with not as many rip-offs going on.

On the other hand, we're a bigger business. The lone wolf is dead. The good old days when a kid with a bright idea would put a game together at home, those days are gone forever.

NG: Does that sadden you?

Chris: Well, yes and no. It's kind of like the aging of an individual. I'm older, when I was 20 years old I was wilder and crazier. Now a days I'm slower, I'm more responsible. But on the other hand I don't make as many stupid mistakes.

NG: Having said that, every now and then a killer new game arrives from out of nowhere.

Chris: You see them, but they are rarer and rarer occurrences. The biggest one that we have had in the past few years is Doom. And Doom was put together by a bunch of nobodies out in Texas who just were out of touch. And there is no way that Doom would have been done by one of the mainstream companies.

But *Doom* couldn't happen today. Id Software would not be able to compete against the big boys in today's market place.

NG: So is maturity a good thing?

Chris: Yes, but unfortunately I still think we are handling the maturing process poorly. One of the big mistakes I see the industry making is that there is a complete lack of any long-term strategy. The industry is very much, "We will sell tomorrow what sold well yesterday." The fact is audiences change and audiences evolve in several ways. One of the simplest rules of audience evolution is if you abuse your audience they won't come back. And our industry abuses its audiences frequently. We foist junk on people and they don't come back. There are lots of people out there who put

stuff out on the shelves, they throw some money at it and they say, this is good enough and it will probably sell. And yes, people do buy it — once.

There is one story I love to tell, it's of an executive from a very large, very successful exempany who, I0 years ago, expressed this philosophy perfectly. He said, "Chris, I could sell dog shit in the right box." I looked at him and said, "You do:

NG: So why don't games improve?

Chris: The game industry needs to recognize that there is such a thing as R&D. Silicon Valley knows this very well but the entertainment industry just doesn't get it. That is you set aside a proportion of your profit every year for research. You've got a group of people who just go off and do research and look at wild and crazy things. Most of what they do is a complete waste of time but every now and then they come up with something great.

This industry has zero research budget.

NG: Does gaming have a lack of ambition?
Chris: The foolish mistake is a failure to realize that you may think these kids are spending money now, but if you hold on to them when their buying power starts going up, you can really cash in. But once they turn 18, it's like "get lost, we don't want you anymore."

It's idiocy. There's a huge marketplace out there for people who were raised on Atari who are perfectly comfortable playing games on a computer and they aren't playing games because there is nothing to appeal to their tastes. It is a

lost business opportunity worth billions and billions of dollars.

NG: You really believe that there's *nothing* out there for the mainstream?

Chris: There's nothing there for their adults' taste in general. The industry fools itself and says, we've got 1.5 million people in their 20s playing games. And they say look how many consumers that is! The question is: what percentage of the total market is that?

Yes, we've got all the needs. But who gives a damn about the nerd dollar! We could be getting normal people. There are millions and millions of normal everybody people who are not interested in nerd games. But all we sell are

nerd games. So what we have to do is de-nerdify our products. The problem is that nerd games are a lot easier to do. "Yes, we've got all the nerds. But who gives a damn about the nerd dollar! We could be getting millions of normal people who are not interested in nerd games."



Chris Crawford featured in NG 11's The 75 Most Important People in the Game Industry feature

talking







Crawford has spent four years developing a game that is based on personal interactions between players and computergenerated characters

CD-ROM: friend or foe?

NG: What about the R&D effort of people getting to grips with exploiting CD-ROM technology?

Chris: It is important to recognize that CD is a data technology not a processing technology. And interaction goes through processing not through data. In other words, CDs can do nothing directly to improve the quality of our interactions. They can only make games look prettier.

I don't know, it's my feeling that just about the time we figure CD out it will be made obsolete by high-speed network stuff.

NG: But graphics have to play a significant role. How about if, as a game creator, you wanted a player to sexually desire a character in the game? Surely a digitized image of Pamela Anderson will work better than a bunch of text?

Chris: Sure, if we're talking about adolescent males, you're going to get a lot further with a pinup than with a lot of personality. And most adolescent girls will tell you they are a lot more popular if they stuff some tissue paper in their bras. And they resent that about boys. So the question is, are we going to go around stuffing tissue paper in the bras of our games? Well, I for one, am not going to do that.

NG: So what is a game? How do you define it? Chris: I see the game as an interaction that involves challenge. Actually I don't want to use that as my formal definition. But that's a quick and dirty rule of thumb.

There is always some sort of challenge to the player. The problem with today's games though, is either the challenge is weak or the interaction is weak. A good example is Myst where there is a strong challenge but a weak interaction. And challenge normally arrives from conflict, all games have conflict, just as every story has a conflict.

NG: Is that why violence is so big in games?

Chris: My observation is that there's nothing intrinsically wrong with violence, but it gets boring. Violence is kind of like crude language — you can pepper your conversation with obscenities. If done rarely, it's sojec, over done it's just boring.

to foods. It's very pleasurable and very intense but jeez, I can't eat sugar all day long. MG: It would seem that 13 to 16 year olds can. Chris: Yes. Thirteen to 16 year olds can eat candy, too. A lot more than I can eat. In fact there's a very close connection here. I once did an essay called "The Evolution of Taste," where I pointed out that in a whole bunch of media, when you're young you gravitate toward the intensely pleasurable, but then your taste always evolves toward a more subtle, more lasting experience.

Violence is to movies and games as sugar is

Food — kids love candy. When they become teenagers they go for hot-dogs, hamburgers, and pizza, so forth. Only when you age can you appreciate a well-baked piece of bread. You appreciate the subtleties. Or start appreciating fine

French cuisine...But when we go to computer games, there's nothing like any of those.

NG: So exactly where does the game industry come into this analogy?

Chris: This industry sells clown burgers.

NG: And you're arguing that we will never ever get to French cuisine?

Chris: Right. The whole system closes into itself because customers start to say. "well you know, videogames are for kids, not adults." So they don't even consider buying them. Even if French cuisine became enormously profitable and everybody was eating croissants and so forth, McDonalds still couldn't do it because even if they made the best French food in the world, people would say. "Yuch, McDonalds." and they'd never go in to try it. NG: You've made some pretty harsh criticisms of the people running the game industry. What do you think these people think of your work?

Chris: They'll say, "Oh, Chris is a dreamer. He doesn't have to answer to the shareholders." And they'll mutter to themselves about the unrealism of all of this. They'll also admit to themselves that there are elements of truth to what I'm saying.

My role in this industry has been the prophet in the desert. The only reason I'm tolerated is because I've been right too damn often.

32-bit's untapped potential

NG: How could the 32-bit technology of 1995's gaming systems be used to improve gameplay and not just game graphics?

Chris: There's no question that you could build products of enormously greater richness than we now have. We're putting all of this energy into the cosmetic factors. But at some point we've got to stop squeezing this particular sponge - because it's going dry on us - and turn to the sponges we haven't even looked at. And those are the input side and the interaction side. The algorithms [phrases of programming language] used for interaction in games right now are ridiculously primitive. A high school student could design smarter algorithms. Graphics algorithms are brilliant, but the actual interaction algorithms are really stupid. Very small investments in interaction algorithm design, I'm sure, can yield gigantic leaps in gameplay value.

It is the same problem with inputs — the inputs available to a player are really stupid, in terms of the the language of expression.

NG: By inputs, do you mean the way that the player communicates with the game, right?

Chris: Yes: up, down, right, left, or fire. And then there are jump, duck, or a few others. A very simple question a very good designer can ask is: What does a player get to do? Don't tell me what he hears, don't tell me what he sees — those are passive things. Those are what happen to him.

Tell me what he does! What are the verbs available to him? And the best expression of these verbs are things he inputs. So let's translate a

game like Doom. What are the verbs in Doom? They are: turn right, turn left, go forward, go backward, change weapons, and fire. That's the entire vocabulary in Doom. Six words. That's not a very rich language is it? What Doom says to the player is enormous, all these images, sounds, and animation — but what does the player get to say back? The player says very little.

When I contrast the thousands of verbs in real, human, interpersonal interaction with the half dozen verbs in a typical videogame, I look at that difference and I say, therein lies our greatest failure.

But then that raises all sorts of other issues. Even if you did provide the player with all these verbs, how is he going to play it? What should the game designer do? Give the player a book to learn the language before they can play your game?

Missing People

NG: How are you, with your own work, driving to improve the complexity of gaming?

Chris: About four years ago I realized that the thing we were really missing was the element of people. I had identified that as the critical problem while at Atari but I had no idea how to solve it.

NG: When you say games are missing people, do you mean they're missing personalities, characters?

Chris: I mean that you don't interact in any meaningful or interpersonal way with any character in any computer game.

The two most common ways humans think are in spatial logic and verbal logic. Computer games are 9% spatial logic. Most everything you do is go north, go south, pick up this, shoot that. It's always moving, moving, and that's fine for some people. Mostly adolescent males. But that's not the whole world of human thought.

NG: Do you think that could be the crux of why games so far have been a male pastime?

Chris: That's a major issue. The spatial factor is basically a huge sign on the front house door saying "NO GIRLS ALLOWED." Spatial reasoning chases women away. It's not that they can't do it, they just don't like it. Why would they want to be entertained with something that's not entertaining? NG: So you are suggesting a fundamental shift from the way games have traditionally been made? That's a huge undertaking.

Chris: It's a little realization so fraught with implications that one thing leads to another, which leads to another, which leads to another, and that's where four years went.

For example, if you are ever going to produce a realistic behavioral model of artificial behavior, then you need to consider context. And that implies that you have to keep detailed records of everything that happens. Every single event that takes place in the game must be stored, so if a guy approaches a girl for the fourth time and says. "Hey, will you go out to the movies with me?" she can consult her history book and realize that he's already asked her out three times. Previously she's

replied with, "No thank you, I'm washing my hair Saturday night," but now she can say on the fourth time, "Get out of here you creep!"

But she can't do that unless she is aware of the history of their relationship which means that you have to store all of those events in a way that is useful, meaningful, and also suitably compact. The number of events you can get goes way up into the thousands, and it also has to be easily searchable.

Gossip

NG: We understand that you've spent a lot of time trying to create a computer program that models gossip. If you can get this right, then it bodes well for being able to recreate other "human" behavior, right?

Chris: Yes. The essential question is under what circumstances will somebody gossip to somebody else about an event? Well, it depends on a lot of factors. It depends on how much I like you. It also depends on how important the event is to me. And I'm also going to tell you about things that effect you. So I programmed all these algorithms to determine when a character would tell another character about an event. Then I tested them.

The example I'm running is with the characters from King Arthur's legend. Let's take for an example the day when Lancelot seduces Guinevere. He's overjoyed, so is he going to tell somebody. The event is very important to him so he's strongly inclined to do tell. He's going to tell somebody he likes, somebody like his best friend. And also he wants to tell it to somebody to whom this news is significant.

NG: Well, that's King Arthur.

Chris: Right! And so Lancelot finds his best friend King Arthur and says, "Guess what, I just made love to Guinevere!"

NG: That's not too realistic ...

Chris: Right! But why not? Try writing a computer program that would have got it right! That's a very good example of the way these things can blow up on you.

But I'll keep working on it...



"The question is, are we going to go around stuffing tissue paper in the bras of our games? Well, I for one, am not going to do that."

The way games ought to be...

NEXT Generation is proud to present the first of what will be a series of columns by Chris Crawford on game design. Originally published in Crawford's monthly newsletter, Interactive Entertainment Design, these pieces were originally written for game designers themselves. But NEXT Generation believes that its readers also will enjoy the philosophy, occasional brilliance, humor, and horizon-broadening analyses of Crawford's work for themselves. His first essay begins on the next page.

talking



The way games ought to be ...

Hi-octane game theory by Chris Crawford

Yes! Multiplayer supergames are possible on the information superhighway! But now some poor fool has got to develop them...

erhaps the most exciting aspect of networked games is their ability to provide interpersonal interaction. As I have so often complained, traditional

computer games are always about "things" (pick that up, go there, use this, and so on) and not "people" — and this shortcoming has held back the development of the medium. The difficulty, of course, lies in the problems of artificial personality and personal expression. Sure, you could come up with a program capable of understanding "I love you," but how about "Who was that man I saw you with last night?" especially with its manifold interpersonal implications.

The problem of automating interpersonal interaction, of coming up with artificial characters that really work, has been attracting attention for some time now, but the sad fact is that we really haven't cracked the problem, or even come close. My own work in this field has made much progress, but it has taken three and a half years, and I still don't have a shelfready commercial product.

The people in the networked games business toss their heads and laugh, "So what? Who needs artificial personalities when we can have the real thing? And no computer model will ever rival the richness of human interaction!"

They're right on all counts. Moreover, they have another advantage: When you use the computer to connect humans rather than to simulate them, you save lots of resources. My software uses gobs or RAM and zillions of machine cycles to simulate even the most rudimentary of human behaviors. The network people don't have to write monster software to handle these problems; all they really have to do is ship bits between players. And what could be simpler than that?

But there are some drawbacks that have so far crippled the network designers, preventing them from realizing the potential of this medium. Let's take a look at these problems one at time. Dropout (aka "Sorry guys. Gotta go...")

This is the worst of the problems. Imagine yourself in the middle of a hot game. Derek has just made a move on your girlfriend; your kid sister has just informed you that she's pregnant, but will not reveal the father. And Vanessa has just announced an attempted hostile takeover of your oil company. Things are really cooking — when suddenly Derek announces that his real-

If I were to wander into a gay bar and start telling loud, ugly jokes about homosexuals, I'd be asked to leave, or perhaps I'd be beaten up

world wife is calling him for his real-world dinner, and drops out of the game for the night. Because he's playing a crucial part in the drama, the whole game is frozen. The problem is compounded by the number of players. The more players there are, the greater the chance that a single-player dropout will shut everything down.

This problem, of course, is not limited to interpersonal games; it has been around for a long time. I recall a story from a defense department computer simulation that illustrates its severity. The simulation linked up commands from all over the country in joint wargames. I saw a videotape of one such operation, an amphibious invasion. A helicopter had just returned to the troops shore and had just returned to the troopship to make another pick-up. It settled down on the landing deck of the troopship and cut its engines. A

moment later, a line defect caused the loss of connection with the naval base controlling the troopship. Because the network used distributed computing, the connection triggered the loss of all units controlled from that station. The troopship suddenly disappeared from the simulation. The helicopter was now hanging in the air, with no power to its engines. It fell into the sea and was treated as a causalty.

The truth is, there is no way to ensure that players will remain in a game they have begun. Some of them will certainly drop out before the game is completed, and if the role they played was crucial, then the game will prematurely collapse. What can be done about this problem?

I know of four basic approaches to this problem: player replacement, noncrucial players, reduced probability of dropout, and bridge artificial personality.

Solution One: The first strategy is to immediately replace the missing player with another human. Presumably there will always be a steady supply of players waiting to play; all the network need do is hold incoming players for a moment to see if any existing slots have opened up; if so, then the incoming player is plunked down into the existing game.

The problem with this approach is that it drops the new player into a slot he knew nothing about. Without knowing the interpersonal history, how can the player appreciate the subtleties of the interpersonal situation? How can he know that the character he is playing has been a two-timing, double-dealing, low-down skunk for the last two hours, and that's why everybody hates him?

And consider the experience from the point of view of the other characters. Here's a character who for three hours has followed a consistent course of action: he's a snake! Then suddenly, the character is transformed into a teddy bear who wants nothing more than to be loved. This isn't a plot twist; it's a plot disjunction.

Lastly, player replacement cannot always be counted on to work. There will still be times when there just isn't anybody available, in which case the game has to shut down. Thus, player replacement does not provide us with a satisfying or reliable solution to the problem of player dropout.

Solution Two: Another approach I have heard about attempts to reduce the impact of any single player on the overall game. One such case involved a trading game in which characters engage in bidding for commodities. If one player drops out, then the market isn't much affected. Another variation of this strategy makes the player a voter in making crucial decisions. This strategy eliminates the problem by eliminating the significance of the player. It no longer matters what you do, because the game can chug along just fine without you. I don't see much value in this approach; it robs the player's actions of meaningfulness. Who would care to play a game in which your own actions (or even your very existence) don't really matter?

Solution Three: A third approach is to reduce the probability of dropout, either by reducing the duration of the game or by making the game turn sequenced with long intervals between turns so that players can be certain to get their moves in.

In the former case, the game is kept to 30 minutes duration or less; this reduces the likelihood of player dropout. Moreover, it ensures that, should somebody drop out, little is lost. The players can simply start over with a new game. The difficulty with this approach is that it limits the richness of play. Short games just can't get into interesting territory. A great many human relationships derive their impact from the context in which they take place. You need to build up some interpersonal history before your interactions with others can become deeply interesting.

The time-sequenced approach often breaks the game down into daily turns. All the players read their news of the day and then enter their moves for the next day. At 5 am the central computer processes all the moves and posts the results. Because players need only check in once per day, the likelihood of their missing a move is much reduced. On the other hand, this solution breaks up the interaction into a slow-moving dance of discrete steps. Seducing a cute chick one box of candy at a time could take months. While it works reasonably well with certain types of strategy games that require lots of thought with few moves, it cannot deal with the more intense interaction of interpersonal relationships.

Solution Four: The fourth approach to player dropout problems involves the use of what I call "bridge artificial personality." The idea here is to use artificial personality

to bridge the gaps created by player dropouts. By noting a player's moves, the computer can build up a model of the player's personality should the player later drop out, the computer can turn on the artificial personality to take over for the player. While the artificial personality would never be as rich or interesting as the real thing, it might be good enough to cover the gap temporarily.

The downside for bridge artificial personality is that this technology will require a considerable amount of work to create. However, such technology, once created, could be adopted to a wide variety of network products. It would also give us a new twist on the Turing test.

Timing (aka "You want to play when!?")

Another difficulty with networked interpersonal games comes from time zone differences. Most people are going to play games during their off hours, typically 7 to to 10 pm on weeknights. Unfortunately, this window is too narrow to permit people from widely different areas to play at the same

Who would care to play a game in which your own actions (or even your very existence) don't really matter?

time. Indeed, even within the continental US this presents a problem: the people on the east coast are getting off just as the people on the west coast are just getting on. When we start throwing in players from Japan and Europe, the problem becomes insuperable. There is simply no way to bring large numbers of players together from all over the globe at the same time.

Of course, if the game is designed for offline interaction, using some sort of delayed response or turn sequencing, then this problem vanished, but human interaction desen't work like chess. Mood is just as important as strategy, and it's really hard to maintain a steady mood over a 12-hour time period.

It's my belief that there is no really good solution to this problem. However, partial solutions can work. An interpersonal game could be set up with mostly west coast players, plus one person from Japan; if they play in the evening on the west coast, it's still morning in Japan. Similarly, east coast players could play mostly among themselves, with the game spiced up with

The way games ought to be ...

west coast players (-3 hour difference) or European players (+5 hour difference). The trick is to have most of the players from one time zone meeting at a convenient hour, and a few adventurous players from other time zones showing up at an inconvenient hour.

Dramatics (aka "Argh! This is like my real life")

This is not so great a problem, but it still deserves some consideration: how do we ensure that the game retains sufficient dramatic content?

The problem here arises from the possibility that the players will fall to do any interesting things and the game will dissolve into boredom. Or perhaps they'll constantly engage in overdramatic nonsense — dashing from murder to seduction to dragons to space aliens. I see no decent solution to this particular problem.

Nazis & Dorks (aka "I'm hanging with nerds")

Since the players provide so much of the game's content, quality control of players is crucial to the overall entertainment value of the game. But how do we exercise quality control over the people who are paying the bill? If a particular player prefers to play as a Nazi, constantly shouting "Heil Hitler!" what can be done to protect the more normal players from this person's bad taste?

In the same fashion, if one of the players is simply a stupid dork, how can other players be asked to cope with him?

This is a delicate problem, because it involves evaluations of the personal merit of individuals, but it is not a new problem. We all have to organize our social lives in ways that maximize the probability of running into interesting people and minimize the probability of running into unpleasant people.

When was the last time you stopped by a bowling alley, or a discotheque, or a square dance hall, or (before poor Jerry Garcia died) a Grateful Dead concert? In each of these social gathering places, you have a good idea of the kind of people you're likely to encounter. Nobody will come right out and say that all Grateful Dead concert-goers are drug users, but you'd have to be awfully naive to be surprised if somebody offered you a joint while you were there.

By the same token, it would be crass to say that all square dancers are older people with conservative values, but if I

talking

The way games ought to be ...

wanted to socialize with such people, I suspect that a square dance would be a great place to start.

Thus, we all know lots of rules of thumb about where to encounter what kind of people. We use that information to avoid some places and seek out others. But no such information is available about network sites. Indeed, if there's any generalization you can make about those who frequent networks, it's that they're probably undersocialized male dorks.

Not very promising, eh?

Fortunately, there are some things we can do about this problem. The best way is to come up with a "player profile" that rates players in a variety of dimensions such as imagination, consistency, romanticism, team-playing, anti-social attitudes, rudeness, and so on. Every time a player completes a game, his coplayers are asked to rate him in each of the dimensions. Once a reasonable set of player profiles have been worked out, specialized games can be set up that have certain personality profile requirements associated with them, e.g., "To be allowed to enter this game, you must have a romance rating of at least six, and a rudeness rating of less than two." Even this scheme, however, is vulnerable: a group of anarchist punks could play a series of games with themselves, altering their personality profiles so that they could gain entry into whatever game they chose, where they could wreak havok.

Our problem is that the normal methods of enforcing group expectations on individuals break down in the network environment. If I were to wander into a gay bar and loudly start telling ugly jokes about homosexuals, I'd be asked to leave, or perhaps I'd get beaten up. But there are no such options available in a group environment online. My guess is that, until network environments provide the majority with the power to enforce sanctions against individuals, social groups will not be able to prevent anarchist troublemakers from intruding on their fun.

Group Size (aka "Get outta here, we're full")

Another issue in network interpersonal games is the problem of establishing the ideal group size. Social interaction is tricky business; if too few people are involved, the interaction becomes inflexible, while if too many are thrown together, the group

becomes socially unmanageable.
Unfortunately, the ideal size depends largely
on the people involved. Some groups will
function quite well with one or even two
dozen members; others will fall apart with
more than five members.

There's no way to tell in advance. My guess is that we'll have to start out with the classic seven-person interaction and then figure out ways to modify it.

Input (aka "Is anyone out there listening?")

A crucial and difficult decision has to be made between enabling players to communicate with free text or with regulated inputs (such as a menu of possible phrases). The former approach gives them the freedom to pursue any options whatsoever, to interact in a wide variety of ways, but it suffers from the ability of troublemakers to mess things up for others. In general, I see this problem as minor. However, the regulated input

If a particular player prefers to play as a Nazi, constantly shouting "Heil Hitler!" what can be done to protect normal players from his bad taste?

approach has the additional strength that it can enable the computer to regulate some form of reality. That is, regulated inputs can permit the computer to keep track of variables and ensure that actions are in accord with some notion of reality.

Of course, free text and regulated inputs are not mutually exclusive; it's easy to include both the same product. The issue is more a matter of how much of the interpersonal interaction takes place through free text and how much goes through regulated inputs.

Egalitarianism (aka "Some people are more equal than others")

This is a particularly thorny problem. The audience would expect to be treated as equals, yet much of the richest social interaction arises from the inequalities of the human condition. Some people are richer; some people are smarter; some

people are prettier. These inequalities play on human foibles to generate social conflict. Yet who would want to play a game as the ugly poor kid without a high school diploma?

How do we reconcile the natural egalitarianism of the customer ("My money is just as green as his") with the dramatic necessity of inequality?

I think that this problem can be resolved through a kind of karma. The very first game you play, you have no karma at all, and so you enter the game with a weakling character. However, your overall goal is to improve your karma. Thus, even though you play san ugly, dumb, poor nobody, if you play well (whatever that means), your karma increases. The next time you play, you'll be given a character who's not quite so ugly, dumb, or poor.

If you play long enough and well enough, you'll play as one of the Beautiful People. Perhaps you'll be a fabulously wealthy, ravishingly beautiful young CEO of a major software company. Perhaps you'll get to be a really nasty bad guy with all sorts of exciting opportunities for villainy — and if you're a truly fine villain, why then, your karma will increase!

What this suggests is that players should be rated, not by any absolute scale of direct personal achievement, but rather by a scale of dramatic success. In other words, we don't measure a player's performance by how much money he has acquired, how many Fame Points he picked up, or how many Cute Chicks he bedded. Rather, each character should be assigned a set of dramatic goals and evaluated on how well he met those goals.

Thus, Lovely Nell might be rated on well she met and married Mr. Right, while Snidely Whiplash will be judged on how many girls he tied to the railroad tracks. Lassie will be judged on how many times she gets little Timmy pulled out of the well, and Captain Kirk will get points for every time he disables a rampaging computer by making it think about a logical impossibility. In other words, you get karma opints for being true to your character.

This has the additional merit that it encourages players to spend more time on your network, building up their karma so that they too can play as Scarlett O'Hara, or J.R. Ewing, or Spock. What a delightfully commercial concept!

The way games ought to be...

This essay was first published in *Interactive*Entertainment Design, edited by Chris
Crawford. For more information contact
ChrisCr@aol.com

THEY RAN THE TWO LARGEST SPY AGENCIES IN THE WORLD.



THIS IS THEIR IDEA OF A GAME.

THE GREAT GAME

COMING IN FROM THE COLD THIS WINTER





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To find out more about PlayStation, check out our WebSile address at http://www.sony.com. For game hinds call 1-900-933-SONY (7669), The charge is \$0.95 per minute. Callers under the age of 18 must get par entail permission to call. Touch-tone phone is required. Available 24 hours a day/if days a week. U.S. only ESPN Extreme Games is distributed by Sony Computer Entertainment of America. Sony is a registered trademark

IF YOU FALL WHILE BLADING AT

85 MPH,

SONY

YOU COULD GRIND OFF

5 pounds of flesh.

BY THE WAY. THE GUY NEXT TO YOU THINKS YOU COULD

LOSE SOME WEIGHT.

You're choking on a large piece of dirt, you've got a boot in your face and you swear you just lost your ear. You're either dead or you're playing ESPN Extreme Games. Only on Sony PlayStation. The object of the game is simple. Bike, blade, luge or board your way through the rocky crags of Utab or Jungles of South America and four other radical courses while your opponent tries to play stickball with your skull. Simple, right? The Sony PlayStation provides 3-D graphics and superfast ultra realistic game play. So when the mountain biker kicks you in the face, you'll PlayStation become road pizza in beautiful 3-D. Now, who's ready to start dieting? U I O t

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JAMMA: The inside scoop from Japan's biggest coin-op show/p. 16 • Ultra 64: More news from the tight-lipped gaming giant/p. 19 • Movers and Shakers: Business news/p.22 • AMOA: New fighting, driving, and shooting arcade games/p.24 • Arcadia: Polygon fever continues/p.28 • Joyriding: Will the ImagiNation Network survive?/p.26 • PLUS: NG Online



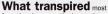
The hottest coin-op news from around the globe

Coin-op giants reveal

Japan's arcade industry gathers for the main event in Tokyo

latest at **JAMMA** Coin-op

he 33rd Japanese Amusement Machine Manufacturer's Association show was dominated by the ever-spiraling technological one-upmanship between Namco and Sega. But just as Capcom, Konami, and Talto introduced their own attempts at high-end arcade games, Sega and Namco continued to place emphasis on low-cost PCbs (printed circuit boards) that share technology with home consoles.



from the show was the increasing number of blatant clones that are developed to cash in on temporal gaming trends. Both Sega and Namco software previewed games that looked uncomfortably close to each other company's creations: Namco's Dirt Dash and Time Crisis pays compliments to Sega Raily and Virtua Cop, while Sega's Manx T.T and Virtual On owes inspiration credits to Namco's Cyber Cycles and Cyber Sled.

The main attraction of the 33rd AM show was Sega's Manx T.T. Super Bike, which was situated on top of a truck that had hauled the eight linked cabinets to the show. **NEXT Generation** met the game's producer, Tetsuya Mizuguchi, who explained that the cabinet was finished but the game was only 20% complete with just one course made plavable for the show.

Unlike Namco's recent bike game, Cyber Cycles, Manx T.T. suspends the player without their feet touching the floor, leaving control to players' own weight to swing the bike from left to right. AM3 could have another hit to follow Sega Rally.

Virtual On was another stunning Model 2 game developed by AM3 and seemingly inspired by Namco's Cyber Sled coin-op. Set in a futuristic arena, it pitches two robots against each other — each player having their own screen to view the action. For a frenetic search and destroy shooter, Virtual On has few peers, with ultra smooth 60 frames-per-second swooping camera angles and detailed textured environments. Rival internal department AM2 countered with

JAMMA coin-op highlights Here's a comprehensive

list of new games present at the show. All should reach US arcades in the first half if 1996:

Sega: Fighting Vipers Final Arch Funky Headed Boxers Indy 500 Manx T.T Rail Chase 2 Sport Fishing 2 Sky Target Super Bike Virtua Cop 2 Virtua Cop 2 Virtua Cop 0

Namco: Alpine Racer Cyber Cycles Dirt Dash Rave Racer Soul Edge Speed Racer Tekken 2 Time Crisis

Capcom: Cyberbots Marvel Superheroes Toshinden 2

Crypt Killer Five a Side Soccer Goal Storm Ultimate Hockey

Time Warner/Atari: Area 51

Dangerous Curves Williams: Ultra Mortal Kombat WWF Wrestlemania NHL Open Ice Hockey

For a frenetic search and destroy shooter, Sega AM3's Virtual On has few peers

The bond between arcade

and home systems has

never been closer



Sega's Manx T.T. Super Bike was the star of the show. Heralding a return to the shifting body weight control of Super Hang-On, would-be racers were happy to line up for an hour



Namco's intense rivalry with Sega continues at a blistering pace in Japan. Both companies are pushing the boundaries of high-end technology

Virtua Cop 2 (Pg. 209), and Fighting Vipers (Pg 203). Sky Target, another Model 2 game from Sega, is a shooter in the style of Afterburner. However, the action is predetermined, in a similar way to Starblade. awkwardly restricting the player's freedom of movement.

Trying to build confidence in its low-cost Saturn-based ST-V (Sega Titan Videogame) coin-op range. Sega showed off Final Arch, and Funky Headed Boxers, another AM3 project. So. far the ST-V has not been a

success in its domestic market in Japan, and there is growing concern that Sega is using the format as a dumping ground for its mediocre titles. Certainly, Sega's premier coin-op designers have expressed little desire to work on the format.

Namco's Dirt Dash is a

rally game fully inspired by Sega Rally, and it uses Namco's System Super 22 board to generate five different fully texture-mapped environments. There are a choice of two cars - a sports jeep and a giant 4x4 truck and the unit's seat is equipped with small air compressors to create motion.

Time Crisis (Pg. 165) also excelled. Namco also managed to boost the credibility of its own low-end hardware. Running with the PlayStation-powered System 11 board - Namco revealed Soul Edge (Pg. 123) and its Classic Collection a compilation of three superb Namco coin-ops from the early '80s - Galaga, Xevious, and Mappy. Namco will soon be releasing a PlayStation CD, Museum Piece Vol.1, with such gems as Galaga, Xevious, Toypop, Pole Position, Bosconian, and Pac-man.

More arcade news from the AMOA show recently held in New Orleans, LA, on page 24.

The foot pedal of Time Crisis adds a great new element to the gun genre

We're Online

http://www.next-generation.com

Launched on October 23, NEXT Generation's WWW page offers the best gaming haven on the Internet

hose of you with access to the Word Wide Web are now invited to check out NEXT Generation's own web page. Designed to complement the printed magazine (and not replace it), the web page offers visitors the chance to search through previous issues of the magazine, check out more than 400 game reviews, peruse tech specs of all the different games systems, and new upcoming additional features.

"One stop news shopping" is one of the first features on offer that should provide a welcome service for regular net surfers. Instead of having to visit every single gaming company site per day to find out what news has broken, EVERY single press release issued each day will also be posted at the NEXT Generation site. It's important to note that the press releases will appear as they were printed - they are not written by **NEXT Generation but by the company** involved. So be sure to draw your own conclusions from what you see.

As time progresses, the services offered by the web page will expand. Already planned are special "Director's Cut" interviews and features (due to space constraints, usually only one third of each of our interviews with gaming's elite ever makes it into printed form) and special offers. Another planned addition to the WWW page is a daily news service written by us. It will enable our readers to keep abreast of the game world on a daily basis, as well as providing a preview of what will be in the next issue

We also plan to include chat rooms (hopefully filled with gamers of a higher IQ than some gaming chat rooms we could mention...) and regular forums for discussing the most exciting news, stories, and trends in the gaming business.

For the moment, however, please bear in mind that the site as it exists today is just the seed from which we hope to grow. If you have any ideas as to how you feel it can improve, please be sure to contact us at: webmaster@www.next-generation.com



Features from previous issues of NG will be available for reference

reviews



More than 500 reviews, on all platforms, will be instantly accessible

interviews



Full, unedited versions of NG's interviews will be shown for the first time



Each interview will feature downloadable artwork from the original

Riglord Saga

Use the NEXT Generation Online as your complete gaming reference guide



töäst toast

Intense, 3D texturemapped terrains of reflexassaulting caryons and
tunnels, Dramanine M
cocktails, anyone?

Scream through 20
different rounds of
nonstop destruction.
Remember, the more you
kill, the better you feel.

Forget about that intergalactic brotherhood CTAD. 'Cause with Total Eclipse Turbo", the

space-combat simulation for the Sony®
PlayStation™, there ain't a heapin'
helpin' of hospitality for light years. And
with all those Squid-faced aliens
stopping in to party, you're goma have to

fire up your wicked welcome wagon and get this 32-bit block party blazing.



1-800-771-3772 for game rating information. Costal Dynamics



Game option, cookietossing 360° barrel roll

capabilities, and life-saving power-ups.

"One of the best 3D shooters ever."
"Just gotta have it!"-DieHard GameFan

CRYSTAL DYNAMICS

Nintendo 64 homes Ultra 64 gets a

new name as Nintendo's quest for domination begins in Japan

Nintendo has released just

a few, stock pictures of its

joypad will be revealed for

the first time next month

Ultra 64. Its top secret

in on **Japan** he obsessive secrecy that has

so far surrounded Nintendo's potentially epoch-making Ultra 64 is slowly eroding as a potential Japanese launch

approaches. To be renamed Nintendo 64 in the company's domestic market (and not the Ultra Famicom as thought

previously), plans are still intact for the worldwide debut of the system to occur at the Famicom Space World (Shoshinkai) event held in Tokyo

Just as NEXT Generation went to press. Japanese game magazine Famicom Tsushin revealed the first picture of the Nintendo 64's "revolutionary" controller (see next issue). While in Europe, Nintendo France (a wholly-owned subsidiary) recently placed a series of two-page advertisements in a variety of French game magazines. The ads picture the machine as well as messages from Nintendo advising anyone offered a mere 32-bit machine this holiday season to politely decline.

between November 24 to 26.

While it's understood that Nintendo will be releasing its console in the US and Europe in April 1996. there has been much speculation about an earlier Japanese release. In early summer Nintendo Chairman Hiroshi Yamauchi hinted that a December release was possible, and credence has recently been given to this by a comment from Hiroshi Imanishi, general manager of Nintendo's public relations department. Speaking to Japanese newspaper Asashi Evening News, he said, "Starting November 24 in Tokyo we will display 100 64-bit machines and 10 kinds of software that we plan to sell initially. We will release the new model within the year."

Rumors abound on the Internet about possible Ultra 64 game releases to be previewed at the Japanese show, and so far it's known that LucasArts' Star Wars-based epic. Shadows Of The Empire, will be shown along with several other non-Japanese games from Nintendo's "dream team" consortium of third party developers. Other games expected to make an appearance include projects from Software Creations and Angel Studios as well as Killer Instinct 2 and a rumored 3D-rendered Donkey Kong game from Rare.

Hotly tipped to be the flagship Ultra 64 game for the US launch is LucasArts' Shadows of the Empire, described as "unbelievable" by those familiar with the project. Apparently, Shadows is in the mold of Dark Forces, although with a 3D engine far superior to anything seen before. While concerns have already been voiced about the system's lowerthan-expected polygon count, this is more than compensated for by the sheer quality of the textures and effects that can be applied to the polygons. Expect in-game enemy characters constructed from complex texture-mapped polygons that rival those seen in Virtua Fighter 2, and 3D worlds far more realistic than any seen before. The game will also include a space combat engine with similar graphic finesse. Expect a more detailed report on the progress of the Nintendo 64 next month.

"Starting **November 24** in Tokyo we will display 100 64-bit machines and 10 kinds of software that we plan to sell initially. We will release the new model within the year."

Hiroshi Imanish neral Manager PR, Nintendo

"Petitpapa Noël, quand tu descendras du ciel, oublie la 32 bits que je t'ai commandée?

This French Ultra 64 magazine ad is a cruel play on a French children's Christmas song. The translation reads, "Little Santa Claus, when you come down from the sky, forget those 32-bits that I ordered"

Nintendo 64 Add-ons

According to Nintendo Power, the "Bulk" or "Bulky" storage device, a non-CD disc drive (widely rumored in Japan to be a propriety Nintendo technology that functions like a SyQuest removable disk), will also be revealed at Shoshinkai. Meanwhile, Nintendo has confirmed it is entering a joint venture with Square and Just System Corp. to provide online karaoke, game services, banking, and shopping for its 64-bit game hardware.

Generator

by Mark James Ramshaw

Straight from the game developers' mouths. The future of gaming on the PC



n this special issue of **NEXT Generation**, every game system is evaluated. The PC is included, but it really is the odd one out of the bunch: it costs 10 times as much, and is used for a variety of purposes. It really is in a different sphere of business than Sega, Nintendo, and Sony. So what is its future in the gaming arena?

Bullfog's MD Peter Molyneux has total faith in the PC. More so than ever," he says. "As the confusion continues with other machines, the only safe haven is the PC. And now some really amazing stuff is happening for it — It won't be very long before we've got access to PC technology which surpasses the PlayStation and Saturn."

"The PC is basically a rock — it'll always be there. It's relable and dependable," enthuses David Jones, head of DMA Dlesign, Ultra 64 partner with Nintendo and the man behind Lemmings. Sensible Software's Jon Hare agrees: "The PC has a more omnipresent air about it, and so the software is more consistent. You don't have to worry about the format dying."

Fergus McGovern's Probe Entertainment (recently sold to Accilaim) was recently responsible for the excellent home versions of *Mortal Kombat 2*. McGovern is another fan of the PC, but finds the machine's incompatibility problems infuriating. "I'd have one company make all the PCs in the world, and make everything standard with no conflict of hardware configurations. The PC has a long way to go, but so long as software developers keep pushing it, then it'll stick around." Indeed McGovern sums up what a lot of people currently believe. "I think it'll be the black box everybody talks about, the interface for the information superhighway."

But what of this much-lauded information superhighway? Do we need it anyway? David Braben, author of Elite. Frontier, and First Encounters certainly believes so: "I think with the high-bandwidth into-home connections we'll see new types of game. Electronic communications have become so widespread, it's changing the way we work, and there's a lot of scope for online gample."

of scope for online gaming."

Probe's McGovern is all for multiplayer gaming. "At the moment, computer gaming is still very much a gameplaying world of sitting by yourself, generally being antisocial. I really want to make some cool multiplayer network games, to bring it out of the cupboard a little." The first network title from Probe promises to further the cause no end — it's a networkable update of Hudson Soft's classic Bomberman (also known as Dynablaster). Fergus promises some interesting little tricks to add personalized touches to this multiplayer spragingne.

Mythos Games, author of X-COM has also admitted to working on some online and play-by-e-mail gaming ideas. But Eric Mathews of coders the Bitmap Brothers isn't quite so sure about the immediate future of network gaming. 'It's one of those things which I think will become more important, but how many people at the moment have the opportunity to do it? We've built network support into our new PC title Z, but we expect it to be played mostly as a one player game."

There's also the argument that multiplayer games could be the one thing to bring the elusive female audience into the world of videogames. But that's for another time...

Mark Ramshaw is free-lance journalist, and a software designer and producer who writes regularly for far too many videogame and music magazines. E-mail him at mark@hoops.demon.co.uk

IONE Skye ON SATURN:

"LABELS ARE TIRED.

Bits, Polygons, MIPS, Labels, Sega Saturn

THEY'RE AN EASY WAY isn't about labels. We could

spend all day talking about how it shares the

same architecture as \$20,000 FOR LAZY PEOPLE TO arcade systems, and how Sega Saturn pumps the

DEFINE YOU WITHOUT hottest arcade titles straight to

your reflexes for a fraction of the cost. We could go on and on about EVER REALLY KNOWING YOU

how its gameplay experience grabs you and pulls you in, but all those words still don't tell you what the



Sega Saturn experience is really like.

ACTRESS.

To understand that, you have to find out for yourself.

SOMEBODY'S DAUGHTER, Don't be lazy.

Don't accept somebody else's definitions.

Even ours. While we use SOMEBODY'S WIFE.

phrases like "the best games are only on Saturn," and

THAT DOESN'T EVEN "this Christmas, Sega

will have the most electrifying library of exclusive games on the planet," **BEGIN** TO TELL YOU

you should form your own opinions from first-hand experience.

WHAT I'M ALL ABOUT."

Then you'll truly know what it's like on Saturn.

SEGA SATURN

GO THERE.



HEAD FOR SATURN











Register your Sega Saturn and get a free SubPop Music Sampler while supplies last, You can reach SubPop at to pure plant, and a part part of the Control of th

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CompuServe: GO SEGA.



breaking

movers & shakers

A monthly look at business news affecting the gaming world

by Christopher Sherman

STARTUPS DREW PICTURES AND PULSE ENTERTAINMENT MERGE

N E W S L I N E : Drew Pictures and Pulse Entertainment have merged. Drew is a developer of videogames and Pulse is a developer of multimedia design tools, having worked the past eight months on the development of a 3D realtime toolset.

BOTTOMLINE: The combined company will continue creating 3D PC games and with the Pulse 3D engine will begin developing games for next generation videogame players as well. Drew, developer of Iron Helix (Win/Mac/Sega CD), will ship its second game Bad Mojo (Windows) in November. A Mac version will follow thereafter. The companies intend to have three products available by the end of 1996.

LATE AGAIN?

N E W S L I N E : Virgin Interactive Entertainment Inc. is delaying introduction of two high-profile titles by nine months. Heart of Darkness (previewed in NG 6) and Toonstruck will be delayed until the fall of next year. Sources say the delay is due in part by the lengthy animation process required by both titles.

BOTTOMLINE: Once again, the masters of hype. These guys are repeating their 11th Hour syndrome once again. But by the time these titles really do hit the streets, you'll sure know the names. Virgin's long overdue The 11th Hour is expected on the street by November.

BANDAI PLAYING THE ULTRA 64 TUNE

FRONTLINE: Bandai Corporation, based in

Japan, will delay the introduction of its RISC chip-based TVtop CD-ROM machine, Pippin, according to reports Bandai pushed back the lananese introduction of its somewhat troubled game machine/set-top box to March and the US



the Pippin will not ship in '95, but, after extensive marketing surveys, may ship in June '96

launch until June, says the report which cited the Japanese news daily Nihon Keizai Shimbun. Originally, Bandai's Pippin machine was to go on sale this year. Bandai licensed Pippin technology from Apple Computer. The report suggested Bandai was going to undertake a "large-scale market survey" before launching the machine.

BOTTOMLINE: We are going do ship this year. Naw, on second thought, we are going to ship some time next year, honest. Bandai appears to have adopted Nintendo's slow, mixed-message strategy. Looks like it's a four-legged next generation race this holiday season with Sony, Sega, Atari, and 3D0 fighting for your dollar. With Apple Computer's future up in the air (rumor has it several insiders - some now outsiders) have been pushing to sell the company.

Pippin is, of course, Apple technology. In the meantime Bandai is establishing two new US companies, BDEC Corp. and Bandai Entertainment Inc. BDEC Corp. will be charged with selling **CD-ROM** players and Bandai Entertainment will produce "visual programs," say reports.

CAPCOM EXPANDING ITS CARTOON BUSINESS

N E W S L I N E : This fall, Capcom Entertainment will launch two new animated cartoon series DarkStalkers and Street Fighter: The Animated Series. Both series are being produced by Graz Entertainment, the animators responsible for the popular Saturday morning cartoons X-Men and The Tick on Fox. In addition, Capcom says it is renewing the Mega Man TV series.

BOTTOMLINE: You can't beat Saturday morning for a captive audience. Maybe Bugs and Mickey have something here?

\$300 MILL. TO BURN

N E W S L I N E : PC software company SoftKey International Inc. sent rumors flying through Wall Street when it announced it had \$300 million to burn on acquisitions in the interactive entertainment arena. Anyone could have done the same. SoftKey says it "is evaluating a number of potential transactions (both negotiated and nonnegotiated) and transaction prospects, but there are currently no understandings, agreements or commitments with respect to any acquisition, business combination, or strategic alliance."

BOTTOMLINE: SoftKey has not been a major player in the videogame business to date but it looks like that might change. The whopping total of \$300 million can buy you a lot of talent.

SoftKey's past multimedia acquisitions have focused on privately held companies. Some speculate that SoftKey now has its sights on a publicly held company. If these guys want to become a "player" overnight they certainly can. One thing is for certain, they've gotten everyone's attention.



Christopher V. Sherman is the publisher of MMWIRE, the leading daily news service for interactive entertainment. MMWIRE ONLINE can be found at http://www.mmwire.com



Capcom's animated 2D Street Fighter and DarkStalkers characters will soon be seen on Saturday morning TV

"I LOVE THE SMELL OF



JET FUEL IN THE MORNING"

An Experience from the REAL 3DO Zone", Eddie "Ah-Choo", NH

FARRIES AT SEA

"I'm pullin' 30 days sea oluty on the Carl Vinson nuclear aircraft carrier. I can check out the aircraft, listen to the crew, sit behind the controls. Really see what makes this thing tick. 3D graphics, realistic sound, and incredible film clips are all under my thumbs. I can even try landin' an F-14

on this thing. You try bringing down a screaming Tomcat on a postage stamp doin' the hula Hey, it's not just a CD. It's an adventure."

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NEXT GENERATION December

US arcades get

Innovation and low-cost games are weapons of coin-op business

ready for war



AMOA showed everything: from cigarettes, dart boards, and novelties, to videogames

ith moderate attendance, sparkling new games, and the seeming return of the trackball, the annual Amusement and Music Operators Association (AMOA) Expo presented a few surprises last September in New Orleans, LA.

Attendees and exhibitors seemed calm and collected about the turnout, but a cool chill ran through many arcade owners' conversations concerning the state of arcade games. A strong reply of technical innovation, (in the form of Namco's Alpine Racer, solid laser shooting games like Sega's Virtua Cop 2. Time Warner's Area 51, and Konami's Crypt Killer, and "street-priced" affordable cabinets, i.e. Sega's TITAN system) seemed to temporarily satisfy many owners' fears of being wiped out by the speedy growth and technical innovation of the home market.

Following the successful SNK-style multicabinet systems, in which owners can interchange games easily and at low cost, Sega claimed it had the answer. The Japanese coin-op giant displayed its CD-ROMand cartridge-based TITAN system, which



with Ultimate MK and NHL Open Ice Hockey

uses a 32-bit RISC processor and 26-inch screen. The black polyurethane stand-up cabinet enables the quick change of various games, control panel elements (steering wheels, joysticks, foot pedals, and graphics) and is compatible with Saturn, enabling the more popular games to be switched from arcade to home at whim. The system's first title was Virtua Fighter Remix. Golden Axe: The Duel rumored to be shown nearly six months ago, was conspicuously absent.

With as many as 35 new arcade games near completion and many more redemption games on-hand, relatively few companies meandered from the standard shooting, fighting, or driving genres, with the exception of American Laser Games' trackball-based "fighter" Orbatak, Williams' WWF Wrestlemania took a welcome, lighthearted approach to the clogged fighter genre, Sega displayed the mediocre Virtua



Namco's multiplayer Rave Racer's was a favorite among this year's driving crowd

Fighter 2 clone, Fighting Vipers, while Namco showed the sequel to its popular fighter, Tekken 2. Capcom, with its fluidly animated 2D fighters, Marvel Superheroes, Street Fighter Alpha, and the static Cyberbots, was well attended despite Capcom's obvious lack of 3D polygonal power.

Sport games have taken off again as a slough of various games were displayed: Konami's Ultimate Sports series, a top-down trackball series, kicked off, while Williams' attracted attention with its own NHL licensed hockey game, among others.

The two most significant industry awards were given to Namco's skiing game, Alpine Racer, for Best New Equipment, while Capcom took Best Booth in the large booth category.



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DISGUSTING,



SICKENING AND SLIMY. I LOVE IT!"

An Experience from the REAL 3DO Zone", Mikey "BozeyBoy", VA

"I go from roadpizza to Cuperalillo thanks to the friendly folks at CuperSalvage. Now I'm trapped in a weird, chaotic world.
Barfman is hurlin' at me and the Dumpmeister's dropping hot, steamy land mines. It's jwerile, bathroom humor at its disgusting best. I'm on a scavenger hunt for four goodies and trying.

to get the hell out with my only weapon-a right arm that's become a "Cuperplunger. Yeah, Cuperplunger. This is truly sick stuff. Later."

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Panasonic Software Company

breaking

JOYBIONG

New gaming sites on the Internet

ith the recent spurt in interest over multiplayer network gaming, it should come as no surprise that more and more virtual playlands are popping up in oyberspace. Some have already opened their doors to users; we covered DWANGO, the Doom/ Heretic place where, to paraphrase Matt Groening's Jeff & Akbar, "the killer elite meet to greet defeat," and mentioned places that have yet to finish construction, like Papyrus' Hawaii.

More gaming services loom large over the internet, like Mpath (which boasts Brian Moriarty, creator of LucasArts' classic adventure Loom), and the Total Entertainment Network. It's truly a good time to be a gamer in cyberspace, since many of the industry, pundits see it as the final frontier for game development and even distribution (just don't expect to download Phantasmagoria, even if you had a CD burner, four discs is just too big).

One service that has seen some troubled times of late is ImagiNation Network, INN started as an ambitious product of then-dominating Sierra On-Line, the game company that brought you classics like King's Quest, Space Quest, Police Quest. Sierra also owned Dynamix, the simulation gods who put out Red Baron, Aces of the Pacific, and Aces Over Europe, and one of the best fantasy role-playing games of all time, Betrayal at Krondor. Since then, Sierra has seen increased competition LucasArts has put out some mean adventures (like Full Throttle), and its sims (X-Wing, TIE Fighter) aren't bad either; Origin's Wing Commander and EA's US Navy Fighters have all been major attention-grabbers. And Dynamix fumbled badly when it decided to stop work on the Krondor sequel, despite a letter/e-mail campaign from many unhappy fans (including me), leading gameworld creator and author Raymond E. Feist to promptly take Midkemia, his fantasy world, over to 7th Level.

So it should come as no surprise that INN has luster lagged. INN became a joint venture between Sierra and AT&T, who was looking to leverage its

communications expertise into the online world. INN still retained a trademark. Sierra look and feel, a completely graphic environment where you could create an "avatar" (as in Neal Stephenson's Snowcrash) with a variety of facial characteristics, then point to various buildings on the landscape to go play poker, kids games, chess, and other computer games. You could even do the cyberspace equivalent of cross-dressing by creating an avatar of the opposite sex and masquerade as a woman for the day (as most INN subscribers are men).

INN highlights the problem of most online gaming — production values just don't match the quality we've come to expect from the best of today's titles,

Do the cyberspace equivalent of crossdressing by creating an avatar of the opposite sex and masquerading as a woman for the day

games like Flight Unlimited. MechWarrior 2. Crusader, Wing Commander — even V6A games like Command & Conquer. And this was especially true for INN, which was still partially a Sierra product. Red Baron was nice, but it became dated as it was caught in the processor/local bus technology explosion. And INN either could not, or would not, go to non-Sierra game developers to provide cutting-edge content on INN.

But why would origin, a Sierra competitor, want to put a multiplayer version of its game up on Sierra's network? In fact, Falcon 3.0 — with its breakthrough network multiplayer support — would have been a great game to line up on INN. Third party online gaming service providers, like DWANGO and Mpath, are lining up developers like Id. Apogee, and Activision to have their network-ready games supporting their service protocol. Add to this the fact that for a long time, INN was stuck at 2400



Shoot Bernard Yee out of the sky on INN any time you like. Got an idea, Net site, criticisms, request or comment? E-mail him at Bernardy@pipeline.com

by Bernard Yee

and 9600 bps when the major services were at 9600 or 14.4 K bps, and you can see why INN's servers had plenty of vacancies going spare.

Well, INN is now wholly owned by AT&T. It hasn't cast off Sierra completely—in fact, they are in still close contact with the original creators of INN. Expect to see Red Baron 2 on INN, but also expect to see access to INN through the new AT&T online service, Interchange. And INN's whole infrastructure is getting a major overhaul, thanks in part to the communications expertise of AT&T. All the server software is now UNIX-based, 28.8 k bps access is coming soon, and Internet access — both in and out of the system — is planned for 1996.

According to Dean DiBiase, INN's CEO, its goal is to be less proprietary than other gaming networks. He still sees INN remaining a mass market, general audience service, with specific areas catering to specific interests. Indeed, INN's strength has been its general appeal. Between 25% to 30% of INN subscribers are women - much higher than other game oriented services. And INN's family nature - no lewd UUENCODED files here, but plenty of kidsoriented homework help-type services make it a great place for kids to explore before they venture out into the wilds of the Internet.

Content will be key for INN, and if it can swing some great multiplayer games, it will be in excellent shape to compete with the newcomers like DWANGO and TEN. INN's latest offering is Front Page Sports Football, where you can play against another human using real NFL teams and players. While not a "twitch game like EA Sports NFL 96, and while not coming close to EA's spectacular sports graphics engine. FPS Football is definitely a step in the right direction.

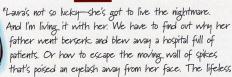
Most pundits agree that it's central to the success of an online gaming service to make logging on, interacting, and playing as painless as possible. INNYs strong suit has always been its social aspect, a colorful and whimsical place to hang out in. Now all it needs are some killer games to play.



A R E

0 E A 0."

An Experience from the REAL 3DO Zone", Dave "Bungee Boy", PA



bodies littering this place aren't giving any answers. Graphics and sound so terrifying I got my back to the wall and the doors propped shut. No sleep tonight. See you on the other side."

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breaking

Arcadia

An insider's overview of the coin-op industry



Marcus Webb is the editor-in-chief of *RePlay* magazine, the US' leading trade amusement magazine

by Marcus Webb



Sega's Tom Kalinske, (interviewed next month) talks about his new deal

Sega plans arcade with Spielberg and MCA

A massive new joint verture company is being formed by Sega Enterprises USA (Sega's American coin-op game factory & operating wing), Dreamworks SKG (the new movie studio run by Steven Spielberg, Jeff Katzenberg, and David Geffen) and MCA-Universal (major movie, TV, and theme park corporation owned by Seagrams).

The new joint venture firm (unnamed as of yet) will design and develop location-based entertainment centers featuring the most advanced video arcade games, hi-tech attractions and simulators, plus food and merchandise. Sites will be specially designed by a collaborative team that includes Steven Spielberg.

MicroSoft will also have a role in all this through Dreamworks, according to informed sources. Skip Paul (now MCA Inc. 5 executive VP and also president of MCA Enterprises) will be president of the new joint venture, with current Sega Enterprises proxy Al Stone as an officer. The new joint venture firm will absorb all the pay-for-play manufacturing and operating functions of the present Sega Enterprises USA.



Expect more characters like Sarah Bryant, as the polygon craze continues

The rise of the polygon

Arcades around the world get the biggest crowds by offering games with advanced 3D polygon graphics and texture-mapping, such as Sega's Daytona and Namco's Cyber Cycles. So, a lot of other coin-op videogame factories are getting into the act these days, it was revealed at this fall's big arcade trade show, the AMOA Expo.

Jaleco has licensed "Daytona type" (Model 2) technology from Sega and will build future videogames around this platform: Jaleco's Desert War video is out now. SNK's Neo-Geo system will move up to computer rendered graphics (similar to Killer Instruct), and 905 MBs of memory for a game called Pulstar, SNK also plans texture-mapped polygon graphics for its new video system in Jate 1996.

Texture-mapped, 3D polygon graphics are also coming from Taito:

yes, it will release its two-player, motorcycle-andcar sit-down simulator *Dangerous Curves* in the US. Konami's multiplayer gun game *Crypt Killer* is also moving up to this level of graphics, as is Data East's *Avengers in the Galactic Storm*.

US makers of aroade games are getting into the act as well. Chicago-based incredible Technology's *Golden Tea 3D Golf* is in the same graphics class, as is Time Warner Interactive's (formerly Atari games). *Area* 51 (see page 201) and American Laser Games' 1996 line-up.

Within two or three years, Sega arcade game players will be able to control images of motion picture quality. As for Namco, its superb skiing simulator Alpine Racer was recently voted best new equipment at the top US arcade game trade show. For the future, its graphics will be hotly competitive with Sega as these two firms see-saw back and forth, battling for the lead in arcade game quality.



Arcade video. "systems" — a universal cabinet which accepts game software changes much like a home platform — are getting a substantial boost in the coming months and through 1996. For the last few years, SNK has, "owned" this market with its super-successful Neo-Geo system. Now it's getting some competition.

After a year of moderate success in Japan, Sega's "Titan" system (arcade cousin to Saturn) has finally made its debut in the US. It features a handsome, modular, tough-as-nails, stereo-sound cabinet. Initial software titles from Sega include Virtua Fighter Remix and Major League Basebali; Sega plans six home-grown titles per year; Acclaim and Data East will also develop games for Titan's new library.

Konami has also entered the arcade systems biz with "Ultra Sports," a lowboy-style system cabinet. It's aimed more at bar and tavernstype locations with simple trackball-only controls and a planned library of sports-themed games. Soccer and hockey titles are out now; football and baseball titles will follow in 1996.



SNK has confirmed its plans to release a 64-bit video system in late 1996. It will be PCB cartridge-based, not CD-ROM based, and it may feature a modular cabinet with different types of controls (driving, fighting, flying, sports) depending on the game. SNK's planned new system will supplement, not replace, the current Neo-Geo system which SNK will continue to support with two or three new 'titles each month.



A 64-bit Neo-Geo system? SNK is working on one for release in 1996

"ONE BALLZY MOVE AND



SUDDENLY I'M SUCKING

SIDEWALK."

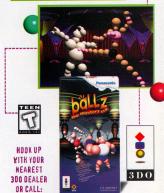
An Experience from the REAL 3DO Zone", Tony "Two-House", IL

The Director's Cut

"OK, I was desperate. On my kneez. Beggin' and pleadin' for mercy. Hey, I'm no wuss, but that neanderthal Kronk is tee-ing off on my skull. But now I gear it up and bust into my aerial attack and super-cool morph moves. Next up, Boomer. But now this clown is doin' the grovelin'. This is

arena combat. Rude, nasty and in-upor-face. And this director's cut left nothin' out. You get it all. I'm outta' here. Peace."

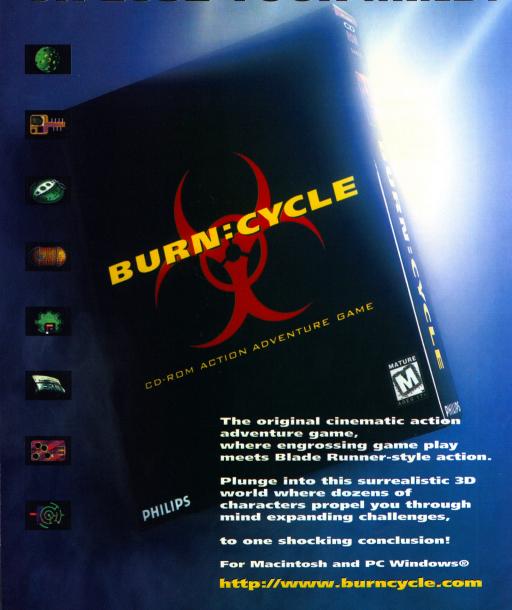






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Datebook

November

Fall Virtual Reality World will happen on November 28 to December 1 at Boston, Massachusetts. This show is open to the public and is the largest exhibition devoted exclusively to VR products and services. More than 80 leading virtual reality software, hardware, and marketing companies will be available to demonstrate their products aimed at the arcade, entertainment centers, amusement parks, home, architectural, medical, and design industry. For more information call 203-226-8967.

December

Home & Family Computing Supershow, on December 8 to 10 at the Dallas Convention Center and December 15 to 17 at the Moscone Center in San Francisco. Open to the public, this show is designed to provide an easy way for families to learn about computer and other high-tech products that emphasize education and entertainment. For more information call: (713) 974-5252.

January

International Winter Consumer Electronics Show (Winter CES), on January 5 to 8 at the Las Vegas Convention Center, Las Vegas Nevada. This exhibit is not open to the public. Winter CES serves as a showcase dedicated solely to consumer electronic products that is the starting point for a portion of each year's industry business. Approximately 1,800 exhibitors of industry manufacturers, retailers, wholesalers, importers/exporters, distributors, press representatives and other industry members will attend Winter CES. For information call (703) 907-7624.

Internet World Canada '96 on January 9 to 12, 1996 at Toronto, Canada. This show is open to the public and is set up for individuals seeking to take full advantage of the global commercial information infrastructure. Exhibitors will include software developers, game developers, network administrators, information designers, webmasters, and many others. For information call 1 800 632-5537.

February

Web Seminars February 6 to 7, 1996 in Chicago, IL. This exhibition is open to the public and introduces use of Mosaic, doing business on the Internet, development of home pages, online gaming, firewalls, security, issues in ISDN, TCP/IP, and legal issues. For more information call 1 800 632-5537.

March

Intermedia World on March 5 to 7, 1996. This show is open to the public and is set up to address the needs of developers, technologists, educators, and pros from the computer, entertainment, information, and communications industries. Call 203-840-5834.

SHOW ORGANIZERS: If your show isn't listed here, it's simply because you haven't told us about it! Remedy the situation by calling (415) 696-1688, FAX information to (415) 696-1678, or send details to DATEBOOK, NEXT Generation, Imagine Publishing, Inc., 1350 Old Bayshore Highway, Suite 210, Burlingame, CA 94010.

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So how does Saturn really compare to Sony's PlayStation?

What about the PC? Can Neo-Geo CD, 32X, CD-i, and Virtual Boy keep up? Is it over for Jaguar? And will Nintendo's Ultra 64 or 3D0's M2 live up to the hype? NEXT Generation brings you the facts

h n n sl

hen a player invests in a new game system, he or she makes an investment. Questions to consider include not only "How expensive is it?" or "Are

the games good?" but also "Have we seen the machine's best yet?" and "Will games still be released in two years?"

With each system we have included tech specs: don't read too much into them. Often, trading off rival systems' tech specs is akin to comparing apples to oranges. The same is true of "polygons per second" processing figures. With no industry-wide standard of polygon size or shape, these claims are largely irrelevant.

The ratings at the end of each system's review are intended to supplement the text and not stand alone as a guide to each machine's strengths:

- Processing Power: Derived from observation of software, and the analysis of developers familiar with the hardware.
- Existing Software Library: Just how good are the games currently available?
- Third Party Support: Do developers (who know best) support the system?
- Marketing Muscle: The superior Lynx was out-marketed by Game Boy...
 Future Prognosis: Is the system on the
- rise, or is it in danger of sinking?

 Overall Score: Not necessarily the mean of the component ratings.

39 PlayStation

45 Sega Saturn

51 3D0

57 PC CD-Rom

63 Jaguar

69 Virtual Boy

73 32X

75 Neo-Geo CD

77 CD-i

79 3D0 M2

83 Ultra 64



The Psy-Q Debugger is the

to appear on Microsoft's

Windows 95 brand new operating

system, Windows 95.

Written from the bottom up, the debugger takes full advantage of the enhanced features available on this exciting new platform.

- Full support for C level stepping and
- A watch pane allows you to monitor local variables, globals and any C expression.

You can use the expression browser to expand structures, step through arrays and follow pointers.

Comprehensive User Interface

Using the debugger's scheme of split views you can divide any window into multiple, non-overlapping panes and arrange your work space the way you

Psy-Q Projects

Psy-Q projects enable you to begin debugging with the minimum of fuss. Each project contains all the CPE files and symbol files associated with your project. It also stores the curi as well as other state information such as breakpoints and preferences.

Smooth Multitasking

The debugger is closely coupled with two, ring zero, VxDs that handle all the communication with the target. This allows you to carry on with other tasks while the debugger and file server run smoothly in the background.

For further information please contact:-John Rostron Psygnosis Limited, Wavertree Technology Park,

Liverpool L13 1EH England e-mail: john@psygnosis.co.uk Tel: +44 (0)151 282 3000 Fax: +44 (0)151 282 3300



PlayStation

Manufacturer: Sony

Price: \$299

Released: September 9 Origin: Japan

Question: What do you get if you spend \$500million developing a games machine? Answer: The PlayStation



ony, the omnipotent

Western consumer electronics brand name, does not do "half way." The PlayStation is unquestionably one of the

most powerful collections of electronic gadgetry ever assembled for home use. Five years ago, its processing power, graphic capabilities, and overall techno-prowess would have been impossible to assemble. Today, they make it the one of the most desirable pieces of hardware on the block. Companies are lining

up to develop for the machine, sales are exceeding best-case scenarios, and impossible games are becoming possible. The PlayStation is here, and it looks as if it's here to stay.

The PlayStation was released in Japan on December 3, 1994. Despite the Japanese custom of selling hardware without pack-ins, the console was effectively launched with Namco's Ridge Racer as its first killer app. One of the world's premiere arcade wizards' best games had been converted for the PlayStation in under six months, and, amazingly, it was an



on reaching US retail stores on September 9, more than 100,000 units were sold on its first weekend of sale

NG HARDWARE: PLAYSTATION

Tech Specs: Sony PlayStation

CPU:

32-bit custom R3000A RISC chip operating at 33 MHz 30 MIDS Bus bandwidth 132 MB per second

Memory: 16Mbits Main RAM 8 Mbits VRAM 4 Mbits Sound RAM 256 K CD-ROM buffer RAM 4 Mbits OS ROM 128 K removable cards for game saves

Graphics: 300,000 polygons per second 66 MIPS Geometry Transfer Engine 24-bit color Resolution 256x224 to Up to 4000 8x8 pixel sprites Sprite scaling routines Full range of Alpha channel effects Proprietry MDEC FMV

Sound:

16-bit sound chip **ADCPM** with 24 channels of sound 44.1 KHz sampling frequency

In a nutshell: After being unceremoniously dumped by Nintendo from its (aborted) Super Nintendo CD-ROM project, Sony plunged into the development of its own videogames hardware. Released in Japan in December 1994, the PlayStation has proved popular with consumers and critics alike, with conversions of top coin-ops Tekken and Ridge Racer convincing many to invest in Sony's new console.

A compact, attractive console design and stylish, innovative joypads only help to enhance the appeal of the machine. By allying itself with Namco and through purchasing Psygnosis, Sony has attempted to make up for its lack of development experience, although the products of its in-house team (Jumping Flash! and Philosoma) betray a certain naiveté.

Luckily for Sony, the few outstanding titles have stolen the limelight, obscuring a mass of less than satisfactory Japanese games. Seen by many as the premier machine of the 32-bit generation, the Sony PlayStation is an impressive achievement from a newcomer to the videogame market.

almost perfect conversion of a \$25,000, stateof-the-art coin-op (the pedantic will always mention the slight loss of texture color and resolution). The boundaries had been defined and the gauntlet was laid down.

But the PlayStation, the

product of Sony's desire to become involved in the videogame industry, started long ago, and its evolution is almost as interesting as the machine itself. Sony first bit into the videogame pie back in the 1980s when it backed the MSX computer standard (also supported by Toshiba, Matsushita, and Sharp). MSX failed, but Sony didn't quit.

Its next attempt resulted in the infamous dangerous liaison with Nintendo. In 1988. Sony (which wanted to be the biggest and the best) and Nintendo (which was) embarked on a joint venture in which Sony would develop a CD-ROM drive for the Super Famicom.

Sony was used to bullying companies and was already taking a hardline stance on the use of its superb Super NES soundchip, designed by hardware supremo Ken Kutaragi. But Nintendo is a company that no one has ever successfully bullied. One day after Sony proudly announced its future plans with Nintendo at 1991's Summer Consumer Electronic Show, the company terminated it with extreme prejudice, announcing it would work with Philips. The Super Disc Project was canceled, and the Philips version never materialized, but the PlayStation dream lived on in Sony's Japanese research labs. And four years later, the dream materialized.

The PlayStation's power lies in its awesome 3D abilities, which were specced out at a time when 2D games ruled the roost in both the home and the arcades, and there was no obvious reason to expect people to demand more in the near future. Sega, 3DO, Atari, SNK, and even Nintendo currently possess hardware whose primary strength is in manipulating 2D objects. But soon after the PlayStation appeared on the drawing board, the shift from 2D to 3D in the arcade business occurred, thanks to Sega's Model I arcade board. The stunning Virtua Racing and Virtua Fighter rapidly pushed forward the boundaries of gamers' expectations, while at the same time improved and cheaper manufacturing processes brought hardware costs down.

So while Sega's consumer R&D department continued pushing the Sega CD and working on the Saturn's 2D abilities, Sony had pre-empted the move to 3D and was busy preparing to exploit it. With the lead times involved in hardware design and implementation, it's vital to anticipate these trends, and Sony got it just right.

To succeed, though, the concept must

The PlayStation's power lies in its awesome 3D abilities, specced out at a time when 2D games ruled the roost

match the final hardware, and, in the case of the PlayStation, it does. At its core is a R3000 processor operating at 33 MHz and 30 MIPS (millions of instructions per second) — a fairly average speed for a RISC CPU these days. But the PlayStation's real power comes from the supplementary custom hardware, designed, once again, by Ken Kutaragi. The key to



The accessories for the PlayStation look good, but so far only the memory cards (great for trading) have appeared in the US stores. While the link-up cable will probably be in stores as Wipeout launches, don't hold your breath for the RPG-oriented mouse as Sony will be bringing only a few examples of this genre to the US achieving fast hardware is integration: Put simply, if the various components can be crammed onto one chip, they can talk better and are cheaper to produce once the die has been designed. The PlayStation's CPU relies heavily on VLSI (very large scale integration), although not to the same extent as 3DO's M2.

The CPU is backed up by the muchvaunted polygon engine, the Graphics Processing Unit (GPU). This beast takes care of all the data that is given to it by the CPU and passes the results to the 1024 K of dualported VRAM, which physically stores the current frame buffer and enables a picture to be displayed on-screen. Part of this picture involves adding special effects such as transparency, fog, and other visual trickery.

To the picture is added the sound, produced by a 16-bit 44.1 KHz, CD-quality, sound processor. Some see the PlayStation's sound as its biggest surprise. Drive under the helicopter in Ridge Racer and you're hit head-on by a reverberating bass rumble that a \$300 console really shouldn't be able to produce. This has been particularly annoying for Sega, whose Yamaha-based sound board is expensive but hasn't yet proven itself.

The mark of a good hardware design is that people neither know nor care how it works — do you know what frequency your microwave vibrates water molecules at? It's user interaction that is vital for all amateur-controlled devices, and Sony's vast consumer electronics experience (and R&D budget) resulted in a stunning console design.

The joypad enjoys a unique and extremely comfortable design, with a total of 10 buttons plus an unusual eight-direction D-pad that looks like it only has four directions. Although in practice the D-pad works as well as any other at first glance, it looks as though it would be totally unsuitable for diagonal movement, a "feature" that caused considerable consternation among players before its release. The pad rests on your hand rather than having to be gripped, as with conventional pade,

A link-up cable has also been designed for the machine, with the aim of bringing multiplayer gaming home. Given the (albeit unlikely) event that two PlayStations, two TVs, and two copies of the same game are present, two players can compete with each other. Although the cable has been delayed by Sony Computer Entertainment (due to the dismal state of the intended debut game, Metal Jacket), SCE's Wipeout and Destruction Derby will also support the cable which will be released in time for the holiday season, according to Sony.

The memory card concept, borrowed from SNK's Neo-Geo works well with the

Key Software

The ease of development for the PlayStation, thanks to the large number of graphics libraries included with the development system, has meant that early efforts take far greater advantage of the console's power than do early Saturn games.

WipeOut

Publisher: Sony Interactive Entertainment Developer: Psygnosis

Despite initial skepticism on the part of the gaming press, Sony's purchase of Psygnosis (now knows simply as Sony) Interactive Entertainment) has paid off spectacularly. Put simply, WipeOut could be the best racing game of all time. Stunning graphics, awesome music, and fantastic gameplay make this hovercraft racer and instant classic. The best 32-bit game yet.



What happens when you do a rapid conversion from the arcade to the PlayStation? Ridge Racer. Completed from scratch in less than eight months, it is a technical tour de force. Even if the gameplay isn't as strong as some of its competitors (where are the power slides?), it demonstrates perfectly the ease of development for the PlayStation.



Publisher: Sony Interactive Entertainment Developer: SingleTrac Entertainment Technologies
Nothing shows off 3D abilities like flight games, and you can expect to see a lot of them on the next generation systems. WarHawk is one of the best.
With incredibly detailed graphics, awesome level design, and good game control, it is totally enthralling — with none of the polygon glitches that plague many of its texture-mapped bretheren.

Battle Arena Toshinden Publisher: Takara

Developer: Tamsoft

Proof that the odd PlayStation controller works fine at fighting games, this true 3D fighter features excellent control, superlative graphics, texture-mapped backgrounds, and a constantly shifting perspective. The weapon-based combat doesn't equal the martial arts experience of Virtua Fighter 2, but it shows PlayStation's ability to handle any genre of game.

Jumping Flash! Publisher: Sony Interactive Entertainment

Developer: Sony Interactive Entertainment
A good example of how the PlayStation's ability to
quickly animate 3D worlds can be built into an
entirely new genre, Jumping Flosh! is a bizarre action
game that puts players into the rather large shoes of a
techno-rabbit who must collect various power-ups
while avoiding menacing frogs.



F-Zero for the 32-bit world? Wipeout is this and more



Namco's racer was packed in with PlayStation in Japan



A real 3D world (*Toshinden* fakes it) and great gameplay



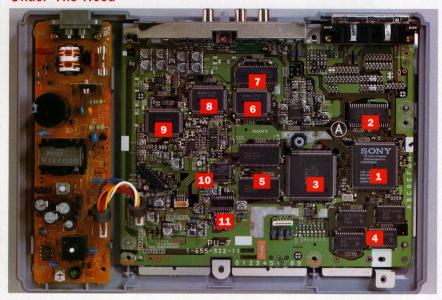
The biggest and baddest fight characters yet seen



Those two white triangles? They are your rabbit's feet

NG HARDWARE: PLAYSTATION

Under The Hood



The PlayStation's mother board (above) contains the following chips:

1 The CPU (a 33 MHz R3000 © 30MIPS) contains the 66 MIPS Geometry Transfer Engine (GTE), the DMA controller and Sony's 80MIPS proprietary MDEC video decompression hardware. MDEC gives full-screen high-quality video playback and can also decompress graphics into RAM

2 Operating System ROM: initiates the boot-up sequences on switching on

- 3 The GPU (Graphics Processing Unit) handles everything that's drawn on-screen
- 42 MB DRAM (main RAM)
- 51 MB VRAM (video RAM)
- 6 16-bit sound processing unit delivers 24 channels of ADPCM @ 44.1 KHz
- 7 512 K sound RAM
- 8 CD controller: contains a CD ROM-XA converter (enabling up to eight simultaneous streams of mixed audio and CD data) and buffer RAM
- 9 Digital Signal Process for CD drive
- 10 16-bit digital audio converter

11 Video decoder and encoder — NTSC (US) or PAL (Europe) signal decoder that sends signal to TV

PlayStation. Expensive batteries and small amounts of space have made game storage a pain with cartridges, but the PlayStation has an endless supply of cheap (\$20), 128 K memory cards available. They're large, fast and, most importantly, removable, with an onboard ROM memory manager, enabling copying data to a backup card and the removal of old games.

Sony faced what many

considered insurmountable odds in bringing the PlayStation to market — it had no arcade division, no in-house development team, and perhaps most importantly, no experience in an incredibly competitive market. What did it have? Awesome hardware design and marketing experience, and more importantly, enough cash to make Nintendo look cheap.

No arcade division? A sweet deal with Namco, never a fan of Nintendo or Sega, solved that problem. No in-house team? Buy one. Or two. Sony bought Psygnosis outright and reined in Sony Imagesoft. No experience in an incredibly competitive market? Well, not this segment anyway. Sony has faced some

resistance from Sega and Nintendo loyalists, but its awesome consumer electronics marketing experience has carried over well to the videogame arena. Sponsoring a trade in program in which gamers could trade old carts for PlayStations was a stroke of marketing genius. By the time the system launched on September 9, 1995, 100,000 had been presold, more than double the number of Saturns sold in the previous four months. In a battle of the standards (which is all the videogame wars are, really) — Sony has learned from the Betamax debacle— early numbers are key.

To succeed in this extremely cut-throat market, you need a combination of great hardware, great games, and great marketing. Whether by skill, luck, or just deep pockets, Sony has scored three out of three in the first salvo of this war.

PlayStation Ratings
Processing Power
Existing Software Library
Third Party Support
Marketing Muscle
Future Prognosis

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Sega Saturn

Manufacturer: Sega

Price: \$299 Released: May 11

Origin: Japan US Sales: 70,000 Sega rolled out a surprise Saturn launch on May 11. But have slow sales and a lack of third party games wiped out Sega's head-start in the 32-bit race?



onsole wars come and go, and the price of victory is a license not just to print money but to build the presses as well. The first such videogame

war was won by Atari way back in the early 1980s. This was a war fought with hurriedly designed hardware, luck, massive ambition and, unfortunately, poor management decisions. The next war was a much more organized affair, with Nintendo the big 8-bit winner, creating openings for smaller companies like Sega to emulate and improve on the best

bits of Nintendo's grand strategy the next time around while fighting for the 16-bit crown.

Now, at the start of the 32-bit generation, the fourth console tussle is upon us and features a unique set of circumstances, with sophisticated hardware, battle-hardened, competitive companies, and an aggressive new entrant in Sony. Also, the \$300 price-point is an unfamiliar battleground and it remains to be seen how well this is going to go down with consumers who are already weary of everescalating prices in the videogame market.

Early analysis indicated that Sega is in



Marketing has always been Sega's strength. A special "Away Team" was created to handle the US launch

NG HARDWARE: SATURN

Tech Specs: Sega Saturn

CPU:

Twin Hitachi SH-2 RISC chips operating at 28 MHz

Memory: 16Mbits main RAM 12 Mbits VRAM 4 Mbits Sound RAM 4 Mbits Buffer RAM 32 K SRAM with battery backun 512 K boot ROM

Graphics: VDP1 processor handling sprites, polygons and geometry VDP2 processor handling backgrounds 5 simultaneous planes with two rotation planes 32,000 colors from 24-bit Resolutions of 352x224 and 640x224

Sound:

16-bit Yamaha 68EC000 processor operating at 113 MHz 32 voices, FM synthesis, two CPU interfaces, 44.1 KHz sound 16 channel digital mixer and 128 step DSP

In a nutshell: Over the last decade, Sega has become the world's leading coin-op manufacturer, and its innovative arcade machines provide ready material for high-profile conversions to Sega's line-up of home consoles.

The Saturn has finally given Sega success in the domestic Japanese market where the Genesis never came close to eroding Nintendo's hold on the Japanese public. Overseas, where the Genesis fared much better, the Saturn is attempting to build on its reputation and the first TV ad campaign stresses the cool chic of the machine as much as its game power.

Initial software has ranged from the outstanding (Virtua Fighter Remix) to the disappointing (Daytona USA) and the downright embarrassing (Gran Chaser). Sega received criticism over the Saturn's muddled architecture, and programmers clearly had difficulties getting to grips with the machine. In response, Sega developed a new graphics library for the Saturn which looks to have solved many of the problems and paved the way for a far higher standard of software, notably Sega's conversion of its own Virtua Fighter 2 and Sega Rally.

danger of being squeezed between Sony's consumer electronics clout and Nintendo's strategic genius. Indeed, it will have a surprisingly hard battle to convince the consumer that its system is the one to choose. But if any company knows about fighting from the position of the underdog, it's Sega.

Sega's chosen weapon this time around is the Saturn. Rumors about this machine's capabilities started to circulate at the beginning of 1994 and while speculation centered around a home console based on Sega's Model I arcade board, seen in Virtua Racing, the first concrete information pointed toward a relatively complex dual-processor design.

Surprisingly, the early pictures and technical breakdowns have remained relatively close to the final system, perhaps because the system was completed far earlier than many people realize. At the rollout of 3DO in 1993, Sega of America President Tom Kalinske boasted that "we have a more powerful machine waiting in the wings, but the time's not ready yet." However, one major design change was forced on Sega, and the culprit was the Sony PlayStation.

In November 1993, Sony told the world that it was developing the PlayStation. At that stage, those who had seen the PlayStation said that it was far more powerful than the Saturn. On hearing the news, Sega's President Hayao Nakayama allegedly marched straight into the Saturn development labs and berated his team for allowing themselves to be beaten by Sony, a mere newcomer to the videogame world.

One Japanese Sega employee recalled, "There had been rumors, but Sony's announcement took a lot of people by surprise. It wasn't just the technology that

enter a market that Sega thought it would have completely to itself"

It was too late to make major alterations to the system, so, at the cost of pushing the launch schedule slightly, a video processor was added to the board to boost its 2D and 3D texture-mapping abilities.

The real processing power of the Saturn comes from two Hitachi SH2 32-bit RISC processors running at 28 MHz. These processors were specially commissioned by Sega and are optimized for fast 3D graphics work. According to the chief Hitachi technician working on the project, "The SH2 has a high calculation efficiency. For magnifying, reducing, and rotating 2D and 3D graphics, it's very fast. No chip can change coordinates as quickly." Kazuhiro Hamada, section chief of the Saturn's development at the time of the machine's conception, said,

While VF2 proves Saturn can match anything done on PlayStation. it must be noted it came from the cream of the crop

"The SH2 was chosen for reasons of cost and efficiency. The chip has a calculation system similar to a DSP (a digital signal processor), but we realized that a single CPU would not be enough to calculate a 3D world."

Apart from the SH2s, there are five independent processors including a sprite chip

(the VDPI), a background chip (the important VDP2), and a custom Yamaha soundboard. The VDP2 is the key to the





Sega isn't making a dime on sales of the Saturn hardware, but its margins on official Saturn peripherals are hefty, Sega hopes that all Saturn owners will buy at least one. Cheaper alternatives should reach stores soon system, according to many programmers familiar with the Saturn, Kazuhiro Hamada reckons that "It's not difficult to use the VDP2. although it takes plenty of time to find an effective use for it. There are so many different ways in which it can be employed."

The reasons for its importance are to do with its function: It can generate up to five backgrounds at once and rotate two backgrounds, in a similar fashion to the Super NES' Mode 7. In addition to this, it's possible to generate three normal scrolls at the same time as a field of rotation.

Andy Beveridge, designer of the PSY-O development system for the Saturn said, "it's a real coder's machine. For those who love to get their teeth into assembly and really hack the hardware, the Saturn will probably pack a few surprises. It's going to take some time before we can see what it can really do."

Scavenger, a leading Saturn developer, agrees. Its chief programmer has said that "the Saturn is very fast at drawing single pixels using its processor, while the PlayStation has to go through its polygon engine. That gives the Saturn programmer more flexibility. However, the Saturn does have a tendency to write polygons that are not seen." He concludes that "overall though, the Saturn has more calculating power than the PlayStation."

While the Saturn's design looks good for the hackers (and it must be said, that's usually good news for the gameplayer), one area of the Saturn's design has everyone in agreement: the 16-bit Yamaha sound board. By all accounts, it's extremely impressive. "Saturn's sound hardware is phenomenal," said one developer. "It's way, way better than the PlayStation's sound - you can basically plug in a synthesizer and play it through MIDI."

It's fair to say there has been some criticism of the Saturn architecture recently; the apparently haphazard board design has been criticized, and negative comments of a similar vein have been circulating. The complex architecture has been causing problems for programmers up until now. This seems to have been most evident in arcade conversions like Virtua Fighter, which has been roundly castigated in areas of the videogame press for its poor, glitchy graphics.

Sega has responded to these criticisms in two ways. First, it has developed a new set of graphics libraries at its AM2 labs which it claims makes the whole job of programming the machine much easier. In fact, Sega of Japan has presented the new graphic libraries as an entirely new operating system. Second, it has been pointing out that despite the early programming difficulties, the games are going to

Key Software

The early release of the Saturn meant that there was very little software available for the first four months. Combined with reports of developers having trouble programming the dual CPUs, a lack of quality games was a legitimate fear at the dawn of the Saturn. As the holidays approach, the picture looks much better.

Virtua Fighter and VF Remix Publisher: Sega Developer: Sega AM2

Though the play matched the arcade, the graphics in Virtua Fighter were so glitchy that many were convinced Saturn was dead before it was out of the gate - a \$400 paperweight. Remix, which fixed the glitches and added texture maps to Virtua Fighter, went a long way toward reestablishing badly needed confidence in Saturn.

Virtua Fighter 2 Publisher: Sega Developer: Sega AM2

Even 70% complete, this is the one of the best home videogames of all time, and it shows that the Saturn is capable of far more than many first thought. Although the backgrounds are not yet in our version, the character moves, graphics and control are top-flight. Whether or not anyone but AM2 can do a game of this high quality is still an open question, however.

Wing Arms Publisher: Sega Developer: Sega

Wing Arms is another addition to the growing 3D flight game genre. The player flies World War IIstyle planes (which have been upgraded with some modern weaponry) through a variety of airto-air and air-to-ground missions. This is no simulator, but it is a good shoot-em-up. Draw-in is almost nonexistent and the game features some interesting new view mechanics.

Shinobi Legions Publisher: Vik Tokai Developer: Sega of Japan

Shinobi lets the Saturn excel at what it was originally specced to do - push 2D sprites around the screen. It is basically the same Shinobi we've been playing for years, with the addition of some well done (although cheesily acted) fullmotion video cut-scenes.

World Series Baseball Publisher: Sega

Developer: Sega

Sega's success withe the Genesis was largely due to its superior sports titles, and World Series Baseball looks to continue that dynasty. With three-dimensional stadiums, beautiful graphics, and fast arcade-style play, the game features real players with real stats. Sports fans are a loyal bunch, and it's playable games like this one that can form a hard-core user base.



VF Remix keeps good gameplay and fixes the graphics



Virtua Fighter 2 is a high-water mark in home software



Wing Arms has the looks and enlay of a sleeper hit



Shinobi Legions exhibits two dimensions to the maximum



This is a good start for Saturn

HARDWARE: SATURN

Under The Hood





- 1 2x Hitachi 25 MIP SH2s running at 28 MHz
- 2 16 Mbit DRAM for SH2s 3 12 Mbit DRAM for the VRAM and
- frame buffer 4 512 K sound DRAM for the 68EC00
- 5 32 K SRAM for battery back-up 6 512 K Initial Program Loading ROM -
- for the Saturn's power-up sequence 7 VDP1 32-bit video display processor, sprite processor and texture-mapping engine with dual
- 256 K frame buffers 8 VDP2 32-bit video display processor with five simultaneous scrolling backgrounds and two simultaneous rotation fields
- 9 Processor controller
- 10 Saturn Custom Sound Processor (SCSP). Contains Yamaha FH1 DSP 11 22.6 MHz MC68EC00 sound
- processor 12 System control unit running at 14 MHz
- 13 4-bit system manager and
- peripheral control 14 Crystal oscillator
- 15 Integrated circuit clock controller 16 Digital-to-analog converter
- 17 RGB encoder
- **18** Cartridge slot
- 19 Connector for joypad
- 20 Connector for CD interface
- 21 SH1 processor for CD drive
- 22 MPFG interface
- 23 CD drive board interface 24 100-pin CD-drive board connector

get much better with time, as with nearly every other console system. The first sign of this improvement in software quality has come, in emphatic fashion, from Sega itself. The impressive Virtua Fighter Remix backed up Sega's claims that early software didn't come close to demonstrating the true power of the machine, and Virtua Fighter 2, only 70% complete (at the time of going to press), is already the fastest and best looking Saturn game to date. Games like this will only strengthen Saturn's market presence.

Sega has already found itself in a violent battle for market share. The high price point at launch and the lack of software basically negated the gains it got by launching the Saturn four months early. But despite initially lackluster sales, the confusion created by the sheer number of high-end systems on the market — the 3DO, laguar, and PlayStation, with Ultra 64 and M2 waiting in the wings may actually work in Sega's favor. Its marketing expertise enabled it to create a highly successful 16-bit brand — people know Sega.

In the end though, marketing can only do so much, and the system will have to stand, not on the quality of its ads, or even its hardware, but its games. While Virtua Fighter 2 proves

that the Saturn can match anything done so far on the PlayStation, it must be noted that it came from the absolute cream of Sega, AM2. It isn't likely to get better than that for a while.

There's no doubt that making the transition to a new market is not going to be easy. But Sega has one other card up its corporate sleeve: its arcade background. In theory, this should enable it to transfer topquality titles like Daytona USA or Sega Rally to the Saturn with comparative ease, and sell hundreds of thousands of units off the back of the games' arcade pedigree.

With a powerful new graphics library to help arcade conversions, Sega's unique position in the videogame market — it is, after all, one of the major forces in both arcade games and home consoles - gives the company competitive benefits that its rivals really must envy. Despite the knocks that Saturn has taken, its will be one of the major systems of the next few years.

Saturn Ratings Processing Power

Existing Software Library Third Party Support **Marketing Mus Future Prognosis**

**** ***1/2



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3DC

Panasonic

Manufacturer: Goldstar

Price: \$299 Released: 1993 Origin: US

As the first 32-bit games system released, 3DO has had the biggest lead time of all. But can a two year old console compete with the next generation?

US Sales: 300,000

ith a global installed base of approaching 700,000 units and the exciting prospect of the forthcoming M2 accelerator, 1995 should see 3DO ditch its persistent underachiever tag

and find itself in a relatively healthy position. And from this bunkered spot it can try to repel the onslaught of next generation machines that are biting so closely at its tail.

But it hasn't been easy for 3DO, and the ride isn't over yet. If you want to look at a defining moment for the 3DO, one brief incident that encapsulates the turbulent fortunes of Trip Hawkins' progeny, you need travel no further back in time than to the 1993 Summer Consumer Electronics Show.

Hawkins, the man who'd built Electronic Arts into the biggest entertainment software company in the world, sold the 3DO to the industry at the Chicago show. And he sold it hard, displaying the obligatory, almost messianic vision that corporate America has made its trademark. According to Hawkins, 3DO which was due for an October rollout - was not going to be just another entertainment system; it was going to become the global

radically different from anything the game would develop the technology, then license it to third party manufacturers, offering other companies a relatively low-risk opportunity to enter the game hardware market.

The power base for this frontal assault certainly looked impressive enough. The list of backers included some of the largest players in the world consumer electronics and entertainment markets, including AT&T, Time Warner, Matsushita (the company behind Panasonic), and MCA. More than 300



Tech Specs: 3D0

CPU:

32-bit ARM60 RISC processor operating at

Memory: 2 MB main DRAM 1 MB video VRAM 1 MB ROM 32 K SRAM with battery

Graphics: Twin graphics animation processors Direct Memory Access engine un to 50 MB/second Screen resolution 320x200 to 640x480 16-bit on-screen from a 24-bit palette

Sound:

Stereo 16-bit PCM sampling at 44.1 KHz 16-bit custom DSP

Dimensions: 284 x 268 x 88 mm

Weight: 2.9 kg

In a nutshell: Preceded by a fanfare of overblown hype, the 3DO was launched in November 1993 in the US and set itself an impossible task: to become the global standard for CD-based interactive entertainment. With too few early quality titles, the 3DO struggled to find a large audience in the US but the machine has attracted a cult following in Japan. A steady flow of decent software, primarily from Electronic Arts, has helped to rescue the console but it's been overshadowed by its 32-bit competitors, Saturn and PlayStation. In-house development projects have been disappointing and a lack of big name arcade games has not helped the machine's presence in the marketplace.

Designed as a hardware format rather than as a specific console, 3DO licenses its technology to third party manufacturers who then produce their own 3DO units. So far, Matsushita (via its Panasonic brand), Sanyo, and Goldstar have all released 3DO machines, but Toshiba has now scrapped its plans to produce one, and Sanyo has stopped all manufacturing.

The 3DO company is in an awkward position. With plans for its successor out in the open, it will be hard to entice consumers to the soon-to-be-outdated machine, and yet the fledgling format still needs to build brand loyalty.

software companies had signed up to develop games for the platform, and Hawkins boasted proudly that there had "never been a rise in performance of 50 times like this."

However, Hawkins possessed what Apple Computer employees (in reference to their co-founder Steve Jobs) call "a reality distortion field." Once the initial excitement at the show had worn off, once Hawkins' mesmerizing rhetoric had faded from their memories. people looked more closely at the 50x claim and suspected that some manipulation of facts and statistics was going on. It simply didn't hold up to scrutiny. More crucially, they looked closely at the 3DO units that were running the software at the show and discovered empty loading trays, and that the sumptuous graphics on display were actually being run from hidden Apple Quadras.

The bubble burst, irrevocably, and once the hype had dissipated, the vision that Hawkins had sold looked insubstantial and shaky. An October presence on the shelves looked almost impossible, and 3DO's status as the game industry's version of an overactive underachiever started to solidify.

But on October 4, 1993, as Hawkins had promised, the first 3DO units the \$699 Panasonic FZ-I - stuttered into US stores. It probably wasn't the most auspicious

rollout ever: the company was chronically short of players and the majority of stores only received one or two units, amidst an atmosphere suspiciously lacking in fanfares. Worse, though, despite all of Hawkins' constant references to 300-plus developers beavering away on titles, only two were actually available at launch. Crystal Dynamics' 3D racer Crash 'n' Burn (bundled with a demo and a Kodak PhotoCD disc with the unit) might have proved that the age of the 32-bit machine had truly arrived, but it fell well short of being the killer app that the 3DO required, despite its spectacular visuals.

"We knew it was a risk," comments 3DO Europe's Managing Director Bob Faber. "We knew we didn't have enough great software, but we had to do it. Would it have been greater if we'd waited until 1994 to launch and had really eye-poppingly great software? Yeah." Software has remained the platform's Achilles' heel ever since, with only Studio 3DO, Crystal Dynamics, and EA ever really getting to grips with the system and producing quality product.

Its birth and early adolescence were dogged by other problems, too. For starters, the 3DO was launching into a nonexistent market at the height of the 16-bit machine's dominance and found it difficult to persuade

3DO was launching into a nonexistent market at the height of the 16-bit machine's dominance

gamers that the move to 32-bit offered them anything new. Then there was the price.

At \$699, 3DO did not come cheap to the consumer - especially when you consider that nearly two years later the Saturn managed to launch at \$399. The US, probably more than any other market in the world, is inherently price driven, and a price of that magnitude simply did not attract customers.

"I think it's safe to say that companies like





Trip Hawkins, former head of Electronic Arts and founder of 3DO, is still pursuing his vision of a global multimedia standard, producing some good games on the way, the X-O-Tron VR may be the most expensive peripheral of all time at \$22,000, and was shown last May at the Electronic Entertainment Expo in Los Angeles. There is still a fruitful crop of 3DO titles showing up on the console; See page 53 for strong titles

Matsushita and Goldstar have learned that, to earn market, you don't launch at \$700 or even \$500," commented Sharon Leah Grimshaw of 3DO US recently. "They now understand that to make the market successful, and to beat Sony— who they are after at this point—they have to come out at a price that is competitive." The unit's price dropped to \$299 earlier this summer.

But at the 3DO's launch, Sony was still a long way from completing its dream machine, and, despite the heavy price tag, the 3DO's technical specs still ensured plenty of interest in the machine. The hardware was designed by David Needle and RJ Mical, a successful doubleact whose previous track record included the Commodore Amiga's architecture, as well as the hand-held Atari Lynx.

The CPU is an ARM60 32-bit RISC processor clocked at 12.5 MHz, boasting twin graphics processors. The accelerated video coprocessors in the 3DO were designed by the New Technologies Group (now part of the 3DO company itself) and, in a similar way to the Atari Lynx, organize the graphics into "animation cells." These cells are full-color. high-resolution images capable of being moved, scaled, rotated, warped, texture-mapped, and light-sourced with the aid of 3DO's Cinematic Software Tools. The cell engines draw the image, leaving the CPU free to concentrate on calculating position (with the aid of a math coprocessor) resulting in very fast realtime polygon generation — for the time, anyway.

But probably the 3DO's strongest feature is its Direct Memory Access engine, which enables it to shift large chunks of data around within its three megabytes of memory without using the CPU. At normal operating speeds, the DMA engine can shift approximately 12.5 megabytes per second, but the 3DO is also capable of shifting up a gear into "Sport DMA" mode and handling 50 MB/sec.

Also featuring a custom 16-bit DSP, MPEG
12 decompression potential, an anti-aliased
resolution of 640x480, and a double-speed disc
drive, the hardware, at launch, was, if not
exactly a quantum leap into the future, at least
a significant advance in the capabilities of
domestic consoles. A number of technical
changes were bought about by cost reduction
at the manufacturing level; components were
accelerated; the troublesome loading
technology and CD drive were improved; and
the operating system was refined, giving
developers more potential disc space.

The 3DO's launch was hamstrung by several factors serving to cut its head-start over Sega, Sony, and Nintendo. First was cost. With the exception of camcorders, no piece of

Key Software

In its two-plus years of existence, the 3DO has managed to amass a library of more than 200 titles. Most of them are excretable, but there have been some gems — more in fact, than are available on either the PlayStation or Saturn at the present time (although, it must be said, the best games for PlayStation and Saturn look better than the best games for 3DO).

FIFA Soccer

Publisher: Electronic Arts Developer: Electronic Arts

More than just a good soccer game, FIFA really demonstrates the 3DO's power. The play mechanics, with multiple camera views and a 3D perspective, add a totally new element to the electronic sports game genre. The multiplayer option enables for six-person games — an experience that shouldn't be missed.

Slam 'n' Jam

Publisher: Crystal Dynamics Developer: Crystal Dynamics

Rivaling anything seen on the Saturn, or PlayStation for the matter, Slam 'n' Jam — Crystal's take on Konami's Run and Gun — is a fast-paced basketball arcade game, which features surprisingly deep gameplay, stunning graphics, extra big characters, and great color commentary. A total winner.

Return Fire Publisher: Prolific Developer: Prolific

Not since Herzog Zwei on the Genesis has there been a two-player action strategy game of this caliber for a console system. The 3/4 perspective works well with the no-frills split-screen graphics and the soundtrack is surprisingly effective. The best part of this, though, is the gameplay.

Super Wing Commander Publisher: Electronic Arts

Publisher: Electronic Arts
Developer: Electronic Arts

A decent conversion of the PC title, this game features lots of space-sim combat and interactive FMV cut-scenes. Wing Commander demonstrates the fact that porting a PC game to the 3DO is relatively easy, so it's seen as a quick way to squeeze out a few thousand more sales — and it's a good source of good games for the 3DO.

Blade Force Publisher: Studio 3D0

Developer: Studio 3D0
The stunning thing about

The stunning thing about this helicopter/jetpack game is the texture-mapped 3D which is taken to a new level for the 3DO. Although the 3DO's lack of raw power means the horizon is always very close, the level design is a masterwork, and the gameplay has been tweaked extensively to ensure a very challenging game.



FIFA Soccer: 3DO's killer app



3DO could use more of Slam
'n' Jam's arcade action



3DO's Return Fire is one of the best original titles of '95



Sure it cost \$4million to make, but it's all on screen



3DO's shot at the "Best Game for the Holidays" title

Under The Hood



The first 3DO Goldstar's mother board is shown above.

- 1 ARM 6 RISC processor running at 12.5 MHz
- 2 Twin graphics animation processors, CLIO and MADAM. combined in newer units into 1 chip, ANVIL
- 3 Digital Signal Processor
- 4 2 Megabytes RAM 5 CD-ROM Input Port 6 CD-ROM Input Port

- 7 AV Expansion Port
- 8 Battery to protect Static RAM
- 9 Controller Input Port
- 10 Power Input
- 11 Svideo, RCA, and composite
- outputs

consumer electronics sells a viable number of units at \$699. The second was software. Trip wanted 3DO to be the family "multimedia everything" machine, and software support went to edutainment and "grown-up" software at the expense of games.

The hype-bubble burst at launch and it wasn't long before dismal sales and balance sheets were leading to "3DOA" jokes and reports of the system's demise.

To 3DO's credit, it realized that the market wasn't up to speed with Trip's vision and took the necessary steps - price cuts and a greater emphasis on games. Two years after launch, the \$299 3DO was selling as well as the \$399 Saturn. Now there is rumor of a further price cut to \$249.

Has 3DO lived up to the pre-launch

expectations? Not even close. But with 700,000 installed users, the 3DO has settled out as a solid system with some good titles in its library and more on the way. The question that must be answered though is this: Is having a "good system" enough?

Maybe. For a little while anyway. The 3DO's hardware is not so far behind PlayStation and Saturn that 3DO can't hope to compete, in the short term anyway. But more importantly, 3DO is already looking forward to M2, which, specs-wise, looks to blow away everything else on the market.

3DO Ratings

Overall

Processing Power **Existing Software Library** Third Party Support **Marketing Muscle Future Prognosis**



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PC CD-ROM

Manufacturer: Multi

Price: \$1,500-\$4,000

Released: 1981 Origin: US

US: 110 million

As the perennial platform, the PC became the foster home of many gamers left floundering after the death of 16-bit. But as the 32-bit set-top boxes gain momentum, will the PC be forsaken?



wo machines and yet one. In the left corner, a 133 MHz 64-bit processor, aided by 16 MB of RAM and hardware-based video acceleration, shifting 2-bit color bit-maps across a screen faster than the eye can follow. It textures polygons on the fly, displays them at high res, and shifts them at a blinding pace; it puts out an orchestrated soundtrack streamed straight off CD; all while hurling explosions out

crackle or a breakup. This machine is hot. The other struggles as its 8 MHz

of a subwoofer-based speaker without a

processor attempts to fill its 512 K of memory with data pulled from an ailing hard drive, and it scrolls slowly through a screen of green blocky text. Eventually it hits the bottom of a simple word processing document, issuing a feeble "beep." Hot this is not. Both machines are PCs, built in the same basic design, but with 10 years of technology separating them.

There was a time when any videogame player scoffed at the PC. Four colors at the most, appalling update times, slow processor speeds, and a lack of game programming support. It didn't even have a



The ability to play multiplayer games like *Doom* — over a network is one of the PC's greatest strengths

NG HARDWARE: PC

Tech Specs: PC CD-ROM

A typical game-playing PC might sport the following tech specs

CPU: Intel Pentium CISC chip operating at 120 MHz with

256 K cache

Memory: 16 Megabytes RAM
Graphics: Super VGA board with 1 MB
video RAM; 17 inch monitor
with .28 millimeter dot

pitch

Storage: One gigabyte hard drive; 3.5 inch floppy drive, quad-

speed CD-ROM drive Sound: 16-bit SoundBlaster

compatible board
Input: ThrustMaster or CH
Products joystick

In a nutshell: The PC was not designed as a game machine. It can play games — even games that can't be done on consoles, like extremely complex sims, but its hardware design is for work, and that has created some extremely serious bottlenecks for gamers, particularly in terms of putting things on screen at a fast pace.

Configuration hassles for the PC are also legendary. Windows 95 goes a long way to solving many of the problems associated with the PC, from memory constraints to set-up problems, to enabling the use of digital joysticks. So today, a \$3,000 PC with Windows 95 can play games as well as a \$300 console, but not necessarily better. It remains, then, difficult for all but the most hard-core gamers to justify purchasing a PC solely for games.

joystick port. The PC of today, however, is unrecognizable to anyone used to IBM-based technology circa 1985. The PC then was the stalwart of business computing; still used in the corporate sector, it is currently penetrating the home market at a rate of 22,000 units a week worldwide. Its sales figures eclipse any other system, computer or console.

Before the 486 processor was released by Intel back in the early 1990s, the PC was an appalling game platform. With 8-bit processors, it was incredibly slow. The later 16-bit processors, in the shape of 286 and 3865X chips, were still hamstrung by an 8-bit data bus between the video/hard drive and processor/RAM. Graphic acceleration was nonexistent, and to even get 256 colors on screen with the video moving at a decent rate, pixel resolution had to be dropped down to 320x200 — hardly impressive today.

The main problem was the data bus. The ISA standard was as old as the PC itself, designed to operate with 8-bit processors. This meant that each time the video info was shoved out to the video card by the processor, it was slowed down by an 8-bit bus bottleneck. And the same went for the information that was zipping between the hard drive and the system memory. Games rely on video update for apparent speed, and with much of the graphics streaming off the hard drive, the PC's processor had little or nothing to do while the data tried shift itself over the motherboard. As a result, games crawled along.

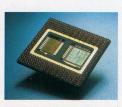
The PC was hampered in another way, which also limited its gaming potential. The way in which a PC memory map was constructed limited the actual program size to 640 K. If it couldn't fit into a 640 K area, it couldn't work. Microsoft adapted its DOS

operating system to give programmers access to high memory areas, but the actual core code still had to fit into that first 640 K segment. Game programmers devised a "quick-fix" for the PC's memory problems back in late 1993. Doom and a number of other games that appeared around the time used a protected mode operating system called DOS4GW. This effectively dumped DOS, forgot how it should be treating the 4 MB of memory, and ran these games in their own environment. DOS4GW was a revolutionary piece of programming; for the first time programmers had access to all of the system's memory, or at least the contiguous chunks left after disk caching software had been loaded to speed it all up. At last

The PC is penetrating the home market at a rate of 22,000 new units a week on a worldwide basis

videogame players (not just strategy or sim enthusiasts) could look to the PC as a viable alternative to their 16-bit or 32-bit consoles.

In 1993 there were two major developments that helped PC gaming along. Intel designed and released fast, clock-doubled 486 processors, enabling fast 486 chips to run at an internal rate of 66 MHz, fast enough for the videogames available on any system at the time. Also, the bus-bottleneck was broken. The local-bus was introduced and data communication across the PC's bus sped up to the same rate at the system's clock speed — 33 MHz on the fastest systems.



Intel's P6 will push forward the boundaries of home computing even further. Even so, the PC still cannot compete with custom hardware













The 8086 processor, introduced in '78; its 16-bit architecture worked much better than Intel expected, and it was adopted as the new CPU standard (top left). The 8088, from 1979; the first 16-bit PC chip with an 8-bit internal architecture. It ran at a bistering fast 4.77 MHz (below left). The 16-bit 286 hip appeared in '82, including on-chip memory management (top middle). The 388 processor marked Intel's leap to 32 bits; the 275,000 transistors pushed performances to record levels (lower middle). The 486, introduced in '89, is still popular; its 1.2 million transistors provided a good base for the architecture's evolution to 100 MHz (top right) Pendumu is the current entry level chip (lower right)

Up to this point, it was the PC's slow video update that hindered its ability as a videogame system — jerky scrolling was a notorious trait. 3D textured polygons couldn't move fast enough when playing Doom-style shooters or racing sims, and even the mainstay of the PC, the flight sim, began to look dated because no texturing was being employed. The introduction of the VL-Bus (VESA Local Bus) standard, whereby video controllers could operate at a full 33 MHz instead of the traditional 8 MHz, changed all of this. Compare Doom on an ISA bus-based system and on a VL-Bus machine, and you'd have trouble believing they were both PCs.

In 1994, the PC's video performance was pushed even further. A spate of 64-bit video controllers were released with custom graphic accelerators built in, operating in 64 bits instead of 32. The video adapter could process video information faster than a 32-bit 486 processor could dish it out, and the fact that there was no bus-bottleneck getting in the way meant that the processor was, for the first time, holding the machine back.

The Pentium processor, running both internally and externally in 64 bits, added the power that the PC desperately needed

the power that the PC desperately needed. Other subtle changes in motherboard design occurred, and a second, faster local-bus system called PCI was introduced. This took advantage of the Pentium's power by taking the monitoring of data flow away from the processor, enabling it to spend its efforts crunching game code. Meanwhile 64-bit memory chips were introduced, speeding up data flow, and hard drive controllers were integrated into the motherboard to speed disk access. At last game programmers could take advantage of a no-holds barred situation.

At last the PC was at the top of the game system list. New super-consoles were on their way, but for the time being none of the 16-bit systems could handle tens of thousands of textured polygons per second, at high resolutions, and keep everything running at a reasonable speed. The PC was at the top of the pile, aided by the release of stunning games such as Magic Carpet from Bullfrog and the technically advanced flight sim Flight Unlimited from Looking Glass Technologies, and it looks set to stay that way. At least for those who are willing to spend \$3,000 on a game system.

Intel's next generation processor boasts twice the performance of a Pentium when running on a 32-bit operating system such as Windows 95 or OS/2 Warp — with 256 K write-back cache, a RISC core, and 4-bit external data bus this chip is going to fly,

Key Software

Up until very recently, seemingly all PC games were flight sims, graphic adventures, or strategy games that appeared — to console players at least — impenetrably complex. Although the depth of the PC's library is growing, its roots remain visibly intact.

Falcon 3.0 Publisher: Spectrum Holobyte Developer: Spectrum Holobyte

The definitive hi-tech flight simulator, Folcon 3.0 has everything that realism freaks could possibly demand. Real world physics, detailed strategic maps, and hyper-sensitive controls keep Folcon satisfying to sim fans, and out of reach to those who just want a quick dooffght. An example of what the PC does best.



This is still the classic defining, PC flight sim

Command & Conquer Publisher: Virgin Interactive Entertainment Developer: Westwood Studios

Although there are a few notable exceptions (Herzog Zwei, Return Fire) good strategy games have for the most part been exclusive (or at least native) to the PC. Command & Conquer is perhaps the most playable of the genre, featuring realtime action, a simple point-and-click mouse interface, plenty of different unit types, and full network support. Expect console conversions to be along shortly.



Realtime action keeps C&C from ever getting boring

Doom

Publisher: Apogee Software Developer: Id Software

Surely the quintessential PC smash and the game that introduced the first-person shooter to the mainstream. Doom has super-fast action that almost anyone can pick up and play immediately. So much of Doom's success is attributable to its network mode that launched worldwide competitions which could not have been done on anything other than a PC. Shame about all the clones cluttering the market.



The game that launched hundreds of lame imitations

Ultima III Publisher: Origin Developer: Origin

Although there are better RPGs available, Richard Garriots Ultim III shows not only the importance of the PC's file storage utilities in making long-term adventures, but also the necessity of a keyboard. In this 100-plus hour quest, each letter on the keyboard performs a necessary function. This versatility gives the PC an overwhelming edge in game complexity.



The face of PC games past, Ultima III is still challenging

FX Fighter Publisher: GTE Interactive Developer: Argonaut Software

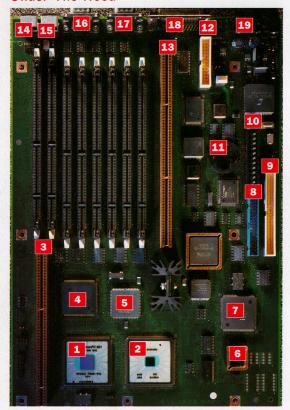
Where advanced gaming seems to thrive on the PC, the basics have just never been too hot. Arcade gaming, in particular fighting games, continue to suffer from poor animation, clunky control, and in the case of FX Fighter, less than remarkable gameplay. Many are pointing to Windows 95 and its new set of gaming APIs, that include support for digital joysticks and video accelerators, as the messiah of fast-action gaming on the PC.



FX Fighter is good if you've never played Virtua Fighter

NG HARDWARE: /

Under The Hood



The PowerPC 601, was the first of the new series of processors and boards. The complete annotation is as follows: If the PowerPC 601 high 2 PowerPC 601,PCI Bridge Buffer 3 Level 2 cache upgrade 4 PowerPC 601 Bridge Control 5 Clock 6 Boot ROM 7 PCHSA Bridge 8 Floppy I/O port 9 Internal I/O 10 Power supply 11 Battyri 12 Parallel Port Interface 13 PCHSA Bus Riser 14 Keyboard input 15 Mouse input 16 Serial 1 input 17 Serial 2 input 18 External SCSI controller I/O 19 Sound (headphones, line-in, line-out, microphone)

increasing the potential for game developers.

Dedicated graphic accelerators are appearing, which take the burden of polygon texturing and FMV control away from the processor. The new STG2000 chipset from SGS-Thomson, soon to be integrated on to a 64-bit video controller by industry giant Diamond, is capable of full-screen video texturing over huge numbers of polygons and playing the whole lot back at 30 fps without placing any burden on the processor.

The PC's sound capabilities are also improving. Wavetable synthesis has brought CD quality stereo sound in a full 32 voices to the system, and most games now take advantage of this, offering support for cards such as the Sound Blaster AWE32 and Gravis UltraSound, which have wavetable capabilities. A full MIDI soundtrack sounds much better than the 8-bit or 16-bit synthesized music PC gamers were used to a couple of years ago.

There are still three main problems with the PC. First is price. A good PC that can run games as well as a PlayStation or Saturn is around \$3,000 — difficult to justify purely from a gaming standpoint, which is why most marketing efforts focus on games as just one element of the PC's power.

This problem won't go away, but it is true that the PC is a multifunction platform; games are just one of many possibilities. You wouldn't shell out such enormous sums for a game-only system; you'd go for a PlayStation instead.

The second is that for years PC games have been difficult to set up and run. Set-up flascoes are common, even among experts. Windows 95, with its gaming APIs, provides a user-friendly layer between the user and the machine, eliminating set-up hassles, with the hitch that you'll need a vastly powerful PC to take advantage of Windows 95's features.

The third is that it's impossible to play PC games sitting with friends in the living room's easy chairs. A subtle point, but important.

The PC still isn't a perfect game platform, but then, it was never designed to fit that particular bill. It's far, far better at running game software than it was in the past, and can justifiably claim to be the most flexible game system currently available, offering a variety of games and gaming genres unmatched on any console system.

PC Ratings

Processing Power Existing Software Library Third Party Support Marketing Muscle Future Prognosis



These are the hands



that open the doors



to nightmare worlds



of fear and death



and madness, too



where your choices seal



an unexpected fate.



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Jaguar

Manufacturer: Atari

Price: \$149; CD add-on \$149

Released: 1993 Origin: US

US Sales: 150,000

Hampered from the start by unattractive hardware styling, a shortage of decent software, and Atari's reputation, the Jaguar, with a CD unit available and a VR headset on the way, is fighting its best to stay competitive — and alive



n the latter half of 1993, Atari's
Sam Tramiel was talking of
revolutions in the home
entertainment market. It was,
on the face of it, a bold claim
from the company that had
created a string of failures, including the Falcon
and the hand-held Lynx.

Indeed, from the first announcement of its development to its subsequent release in the latter part of 1993, Jaguar's biggest problem was Atari's reputation for creating good hardware, then spectacularly failing to exploit it. However, Jaguar's initial specs were

impressive and the price point (\$2.49) was not merely right, but surprisingly inexpensive, considering the 3DO was then selling for \$699. Atari had also, it seemed, listened to the criticisms of its previous machines, and this time, it seemed, things would be different.

The history of Atari is the

most well known in videogaming — indeed, it is the classic Silicon Valley success story. Nolan Bushnell created the arcade videogame industry from scratch in his garage (well, his daughter's bedroom), sold out to Warner, presided over the dawn of the home



Atari is drastically cutting costs in an effort to regain profitability, canceling troubled projects and laying off staff

Tech Specs: Jaguar

CPU:

Motorola MC68000 RISC chip operating at 13.3 MHz, used to coordinate the sound and graphics processors

Memory: 2 MB main RAM 256 K CD-ROM buffer RAM

Graphics: Custom RISC processor amusingly titled Tom contains blitter object processor and Graphics **Processing Unit** Resolution up to 720x576 Sprite scaling and rotation 24-bit color Z-buffering in hardware Gouraud and depth shading 4 K internal program/data store

16-bit DSP with DAC Sound:

CD-ROM drive: 330 K/second spin and

790 MB storage

VR headset: 52" x 40" (H x V) field of

1" x 0.7" active matrix 428x244 (104,432 pixels) display size

In a nutshell: A powerful machine on paper, the Jaguar has been blighted by a complete lack of credible software. For the longest time, only Alien Versus Predator, Tempest 2000 and an outstanding conversion of Doom have merited a second glance. The machine's problems are compounded by its unattractive styling and an ungainly joypad. A much-delayed CD-ROM drive has yet to appear and the additional outlay required raises the cost of the Jag/CD package to the levels of the Saturn and the PlayStation.

The initial crop of CD titles look to have improved little on the Jaguar cart software, which doesn't bode well for the machine. However, the Virtualitydeveloped VR 2000 headset for use with the Jaguar is very promising technology and, should the games (including Missile Command 2000) exploit it, it could yet revive the Jag's fortunes.

In the meanwhile, however, Atari will have to rely on being the cheapest next generation machine on the market, and a busy legal department...

to pursue new ventures (living the good life, starting Chuck E. Cheese). Meanwhile, epic mismanagement at Warner and a flood of truly wretched games triggered the crash which destroyed, for a time, the console market (see NG 4 for the whole story). Warner, hemorrhaging money, sold off the home division of Atari to Commodore founder lack Tramiel in 1983 (though it held onto the arcade division). And while Atari offered token competition to Nintendo with the 7800 game machine, the Tramiel clan concentrated on the

home computer market, where, despite nice

Europe, the family was eventually beaten by

hardware and some success in parts of

the MS-DOS standard.

videogame craze with the Atari 2600, and left

Since the introduction of the 2600 in 1976, Atari has never failed to produce some entry into every new category of the console market, supporting the 7800 until 1991 and introducing the impressive hand-held Lynx (designed by RI Mical and David Needle, who had previously created the Amiga and went on to build the 3DO) in 1990. So in 1992, with its home computer sales sinking. Atari decided to concentrate all efforts on the only market that had ever given them the global success they sought - videogames. The result was the laguar, introduced to universal approval at the Summer Consumer Electronics Show in 1993.

Sam Tramiel shouted the machine's praises while shamelessly taking Trip Hawkins' claims for the 3DO and applying them to Atari's new baby - that the laguar's performance level "puts the stakes way out there." Trip, in response, bullishly claimed to be "delighted that [Atari] thinks our coat tails are the ones that will provide the best ride."

Despite good looking hardware (on the

inside anyway), the games demonstrated at CES did not appear to take advantage of any of the unit's supposed strengths. The Jaguar was released in limited markets that December, with CyberMorph, a lackluster shooting game, as the sole pack-in.

Is it really 64-bit? Yes. The data path from the 2 MBs of DRAM to the CPU and twin custom processors, Tom & Jerry, is 64 bits wide. That said, the data path is nowhere as important as the custom graphics hardware. The main CPU of the Jaguar is a 13.3 MHz Motorola 68000: it controls boot up, gameplay, and coordinates Tom & lerry.

Tom, the custom graphics RISC chip, contains a blitter, object processor, and GPU (graphics processing unit). The GPU has 4 K of buffer RAM and is optimized for matrix operations. The blitter can scale and rotate

Game delivery is finally starting to speed up. The next batch of software appears to cater for a breadth of tastes

images in 24-bit color, has Z-buffering capabilities, and features Gouraud and depth shading. It can drive a screen up to 724×576 at 16.8 million colors.

lerry, the custom sound chip, has an 8 K buffer. It has 16-bit DACs (Digital to Audio converters) for sound and also drives the ComLynx interface which enables multiple laguars to talk to each other.

Cartridges are accessed through at 32-bit wide data path, as is the CD hardware. The



The recently released CD drive will enable the Jaguar to compete, at least in terms of cut-scenes. This unit supports Cinepak compression for movies. Announced at the first Electronic Entertainment Expo last May in Los Angeles, a VR head-mounted display from arcade VR veterans Virtuality is planned for the system in late 1996. By the time you read this story, a new six-button controller will be in stores, mainly for fighting games Sixty-four bits or not, it isn't hardware that sells systems, it's the games (a party line Sega very quickly stepped to when comparisons began between the Saturn and PlayStation). And thus far, Atari has spectacularly failed to deliver on the software side, leaving many to question the actual quality and capability of the hardware.

With only one or two exceptions -Tempest 2000 is cited most frequently - there have just been no truly great games for the laguar up to now. There have been a few good PC conversions, like Doom and Cannon Fodder, but nothing that stands out as a must-have killer app. Atari has completely squandered the lead that it had on the rest of the next generation systems with pathological delays in shipping quality software. Hampered by a poor reputation that was well earned in the 1980s, Atari has found it difficult to get third parties to develop for the system, has far weaker a distribution network than its competitors, and tellingly, has none of the brand recognition among today's gamers of Sega, Sony, Nintendo, and even 3DO.

So, now, finally, after numerous chances, is it finally time to count Atari out for good? Cynics say "about time!" We say not quite yet. Atari still has a number of factors going for it which could keep it in the game.

First off, the staff of Atari is from the old school — not the hot shots who switch jobs every 18 months. They are true believers in the vision of the Jaguar and have an almost unholy dedication to its success. "We've been in this business for more than 20 years and we just love the business," says Tramiel. "We're really dedicated to it. We're not looking at this as how to make a quick buck."

Second, even with the Jaguar selling poorly, Atari has another source of cash — patents. Nolan Bushnell's strategy of obtaining a solid patent on every piece of technology possible has paid off handsomely for Atari, most recently with a settlement with Sega that netted Atari \$50 million dollars, and a cross licensing deal with Sega (Atari claims that classic games are coming out on a Sega platform within eight months). Sega received a 7% stake in Atari and relief from future suits; a good move when you consider that Atari may hold patents for such basic videogame concepts as scrolling backdrops.

A constant flow of cash from law suits may just enable Atari to stay afloat long enough

Key Software

The Jaguar's Achilles' heel has been software. Good games have been far and few between, and even mediocre efforts seem to take forever to ship. Still, in the two years the Jaguar has been out, there have been some solid titles released.

Tempest 2000

Publisher: Atari Developer: Llama Soft

The first game to show off the Jag's abilities, Jeff Minter's Tempest 2000 features excellent graphics, techno soundtracks, and gameplay straight from the arcade classic. The game actually features three games — the original, and two updated games, Plus and 2000. This remains the first game Jaguar owners mention when someone disease the system



Tempest 2000 epitomizes the

Defender 2000 Publisher: Atari

Developer: Llama Soft

Minter does it again — this time to Williams' Defender, and it looks like this will be the new high-water mark for the Jaguar, with the same three modes as Tempest (Classic, Plus, and 2000). If games like this came out for the Jaguar with the same frequency as medicare out of the Jaguar with the same frequency as medicare games like Kasumi Ninja or White Men Can't Jump, Atari would be in much better shape.



Nothing succeeds like a sequel, and Jaguar has 'em

Power Drive Rally Publisher: Time Warner Interactive

Developer: Rage

One the few third party games available for the Jaguar, Power Drive Rally is an overhead racing game similar in style to Codemasters' excellent Micro Machines. Although this style of game has been out of favor for a couple of years, this is a stunningly fun game — excellent 2D graphics, awesome control of the car, with powersildes galore, and some very satisfying tracks and courses.



the graphics in Power Drive

Ultra Vortek Publisher: Atari

Developer: Beyond Games

Bearing an uncanny resemblance to the Mortal Kombat series, Ultra Vortek is what Kasumi Ninja should have been — a fun 2D fighter. Everything you would expect is here: digittzed characters. loads of blood, projectiles, fatalities, and more. Although the action is a little slow, Ultra Vortek is a satisfying game and the best fighting game on the Jaguar.



Just because its derivative doesn't mean UV isn't fun

Blue Lightning CD Publisher: Atari

Developer: Epyx/Atari

Converted from the Lynx hand-held, Blue Lightning could be a cartridge game — the compact disc is used mostly for colorful cutscenes. Still, if you're looking for an After Burnerstyle tracked shooter, Blue Lightning delivers. The ability to change planes and the sheer number and variety of missions makes this a great pack-in. It's just a shame that there aren't more decent CD tracks to warrant purchasing the hardware.



Air to ground missions are the most fun part of this title

NG HARDWARE: JAGUAR

Under The Hood



A look inside the engine of the Jaguar: 1 TV modulator: provides a full screen PAL picture, unlike many of the Jaguar's rivals 2 32-bit cartridge connector. The CD unit plugs in and cartridges plug into the CD unit. Cartridges up to 6 MBs insert here 3 Boot ROM chip. The letters "ATARI" spin onto the screen and a parallel 3D cube with Jaguars texture-mapped onto its face rotates for seconds before each game runs 4 DRAM chips; 2 MBs of data can be accessed from here, 64-bits at a time 5 The 68000 chip, clocked at 13.3 MHz, boots the unit, and coordinates Tom & Jerry 6 Jerry, the custom sound processor. A RISC chip with 8K of internal program and data store, reducing the need to access the main memory. It has 16-bit DACs for sound and drives the ComLynx interface enabling Jaguars to talk to other Jaguars 7 The second custom chip, Tom: Contains the blitter, object processor and GPU. The GPU is a RISCchip with 4K of internal program/data store. The blitter can scale and rotate images in 24-bit color, has Zbuffering capabilities, can Gouraud shade polygons and depth shade textures. The

object processor can scale images in up to

to see the Jaguar to possible profitability.

Third, software delivery is finally starting to speed up. The next batch of Jaguar software appears to cater for a breadth of tastes. From the high profile Mortal Kombat 3 and PC titles such as Myst and Greature Shock to the more traditional fare provided by FlipOutl, Gotcha, and Boldies, Atari is attempting to cover all the bases. The company is even porting some Jaguar titles to the PC.

And don't forget — Atari's President Sam Tramiel may be right. If gamers aren't willing to pony up the \$300 that the other next generation systems cost, the \$149 Jaguar, once it has a more respectable library, may be in a position to stake a claim at the budget end of the line.

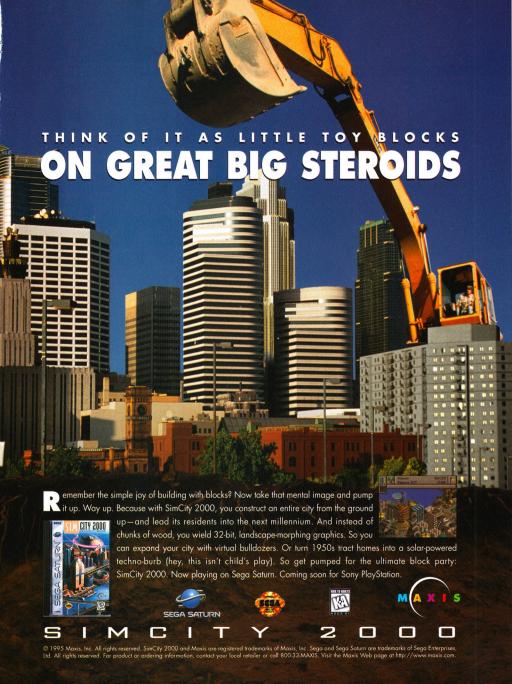
Jaguar Ratings

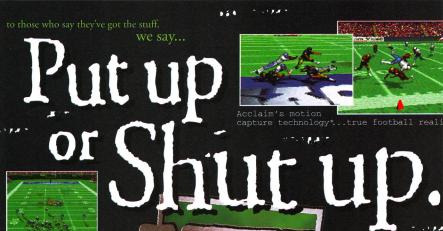
Processing Power
Existing Software Library
Third Party Support
Marketing Muscle
Future Prognosis
Overall



If released, the Jaguar VR HMD hopes to be the first affordable home virtual reality system

24-bit color







80 yards of

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all the top NFL™ quarterbacks!



all the players count!



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Virtual Boy

Manufacturer: Nintendo

Price: \$179

Released: August 21

Origin: Japan US Sales: 40,000 Nintendo's new toy is aiming to create a market for itself the same way the Game Boy did six years ago. But basic games and awkward play could limit its fate to that of a passing novelty



et's get one thing straight right from the start: This is not a virtual reality system. Created by Nintendo's design guru Gumpei Yokoi, whose past glories include hardware such as the Game Boy, the Game And Watch series, and such sterling software as Super Metroid, the Virtual Boy is something of a mysterious product. Unusually, it was a Nintendo product that didn't achieve a universal level of desirability prior to its launch. Conversely, the Super Famicom (Super NES) had been spoken of in hushed, sacramental tones by all within the videogaming community months before its first public airing in 1990, and even now the Ultra 64 is generating similar levels of frenzied prelaunch speculation.

What certainly didn't help Nintendo's Virtual Boy plans was the rush of opinion Virtual Boy's unveiling at last year's Shoshinkai show in Chibi, Japan. Most observations were less than optimistic, and some downright damning. The key area of criticism was its range of launch software; "uninspired" came from some of the kinder reports.

While the Virtual Boy system's 3D capability was certainly perceived as being effective, there was little Nintendo could do to disguise the shallow nature of games such as TeleRoboxer, a Punch Out!! style affair featuring robotic fighters. Worse, there was no bigname Nintendo sales vehicle among the initial



According to Gumpei Yokoi, the creator of Virtual Boy, Nintendo plans to release a shoulder-mounted Virtual Boy soon

CPU: 32-bit NEC V810 operating at 10 MHz

Graphics: Scanned linear array display developed by Reflection Technology, details unclear

Sound: 16-bit stereo

Misc:

Dimensions are 217 x 254 x 110 mm Weighs 760g Powered by 6AA batteries stored in the game controller Accessories include an AC 100V adapter, battery charger and adjustable stand

In a nutshell: The habitually cagey Nintendo has been even more reticent to divulge too much about the technical prowess of its Virtual Boy system. This is a legacy, perhaps, of the machine's debut at the Shoshinkai show in late 1994, when it failed to make the desired favorable impression.

Unusual and innovative, the Virtual Boy can be seen as a gamble in the same way that the Game Boy was, but it's a lot harder to see the VB succeeding to the same world-conquering extent that the Game Boy did. The 3D effect generated by its fixed headset is convincing but underutilized by the first crop of titles released by Nintendo. Too much of the 3D in the first Virtual Boy games were simple shock effects — just like the effects seen in primitive 3D movies.

The Virtual Boy's controller is an intriguing creation. Its twin-handed, two joypad approach to game control is innovative and should allow for some interesting games, if designers can look beyond obvious trickery.

With the Ultra 64 commanding most of Nintendo's (and everyone else's) attention, it's hard to see the Virtual Boy getting a fair crack of the whip. Whether it will ever be more than a gaming novelty remains to be seen.

titles: Virtual Boy takes on the Zelda and Metroid themes were conspicuous by their absence at launch, and Mario Smash bears more resemblance to the original Mario arcade game then the side-scrolling plumber who has sold millions of hardware units.

Gumpei Yokoi believes that the system is best suited to action and puzzle games, though he says that "in the future, role-playing games and simulations will become popular. However, creating expansive and complex games such as RPGs could in itself be problematic. The Virtual Boy is designed to be used in shortish bursts. Indeed, the games have an optional auto-pause facility built into the hardware, which prevents users from overdosing, and simplistic titles such as Galactic Pinball consolidate the brief-dabble theory. But when you consider that Square Soft is a known licensee for the Virtual Boy, more involving, long-term games seem destined to appear as the system matures.

Third party support in general would appear to be something of an interesting point, however. Nintendo consciously avoided an "all aboard" policy during the system's infancy, with Yokoi stating that "if we allow any software publisher to develop games for our platform, there's a danger that poor-quality software will appear...we wanted to limit that danger and maintain as much control as possible."

What is of some concern is that Nintendo's machine has apparently been dismissed by some of the industry's most important players. Konami, Capcom, and Namco have so far remained uncommitted to the format, leaving the flame to be carried instead by the likes of smaller companies such as Hudson Soft, Atlus, and T&E Soft.

It is clear that Nintendo has picked up on

virtual reality's burgeoning significance in electronic home entertainment. But rather than approach the challenge head on, producing a full-blown machine with a traditional, colored display and motion-tracking facility, it has opted for a novelty angle. The finished unit is certainly a striking piece of gaming hardware, designed with an air of Fisher Price flair and finished with the robusticity of a traditional Nintendo product. It stands sturdily on metal feet, and its joypad, which also holds the six AA batteries required to power the system, is comfortably designed, yet sufficiently complex to sit alongside both Sony's and Sega's designs.

The Virtual Boy's display is absolutely pin sharp, and succeeds in producing a gaming experience truly unlike anything that's gone before. At its most basic level, the 3D effect is achieved by assigning objects on

The unit carries a strong warning against being used by those under six years of age — permanent vision damage can occur

screen to individual planes. The 3D varies throughout the range of launch software, but even Hudson Soft's Panic Bomber, a Tetris clone that would seem to be the least likely to demonstrate dazzling 3D, manages to produce some of the most terrific animation and effects seen on the system.

Despite housing a 32-bit CPU, the Virtual Boy really doesn't jump through any impressive



In Japan Virtual Boy games are launched with comic books (loft). The battery-powered nature of the system, (with the hatteries cleverly stowed away in the controller) hint that the system was initially designed to be considerably more portable than the final weight and awkwardness of the system allowed. Perhaps the shoulder-mounted edition hinted at by Mr. Yokol will be closer to his original plans for the platform

hoops when examined on the basis of pure pixel shifting. Obviously the strain of producing two independent images simultaneously, each only slightly different, but coordinating to create a 3D effect when brought together naturally by the user's eyes, prevents any particularly advanced sprite manipulation or polygon pushing coming into play. The system's first and so far only polygonal title, Red Alarm, manages only a wireframe gaming environment — a concept exhausted on more conventional systems years ago and now redundant elsewhere.

The bottom line is that Virtual is difficult to play for more than a few minutes without experiencing back and/or eye strain and although the unit runs on batteries, it is anything but portable. The monochrome (red) nature of the display, while, sharp, is not exactly enticing to traditional gamers. Children may be excited by the simple 3D effects, but the unit carries strong warning against being used by those under six years of age — permanent vision damage can occur.

Despite a strong promotional campaign, the unit has not done well in Japan. And convinced that US customers just "aren't getting it," Nintendo has arranged to have 20,000 units available for rent at Blockbuster (rumors that the units are Japanese returns are unconfirmed). Another problem is lack of games. There have been no new titles since the launch, reportedly due to a shortage of circuit boards. Is Nintendo playing the "artificial scarcity" game it honed with the NES? Hopefully not. While the scarcity of titles in the '80s increased demand, with the Virtual Boy, consumers may respond with an apathetic attitude if the shortage persists.

The Virtual Boy is a quirky machine, but it must be kept in mind that it isn't intended to compete in a market currently saturated with both PlayStation and Saturn. Is this Nintendo's 32X? Time will tell. Nintendo's marketing genius is well known, and the Game Boy succeeded despite exceedingly lackluster technology. But it is worth noting that there is no Tetris, yet, for the Virtual Boy. What the system desperately needs, of course, is the product of Shigeru Miyamoto, but with his Ultra 64 commitments, it could well be some time before his groundbreaking work graces those red lenses.

Virtual Boy Ratings

Processing Power
Existing Software Library
Third Party Support
Marketing Muscle
Future Prognosis

Key Software

Picking the five key games for the Virtual Boy is pretty easy, since there are only six games available right now for the system. Nintendo claims there will be 11 titles available by the holiday, but sources say that at least some of those titles have been delayed. If you're looking for 8-bit style action with 3D effects, look no further.

Mario Smash Publisher: Nintendo Developer: Nintendo

Bearing more in common with the old Mario Bros. arcade game than the Super Mario platform games — Mario Smash features play mechanics that look a little like Bug!. Smash turtles, collect coins, and relive those arcade days of yesteryear. This is the only Virtual Boy title in which the 3D elements really change the gameplay appreciably.

Red Alarm Publisher: Nintendo Developer: Nintendo

It tried to be Star Fox 3D, but Red Alarm doesn't come close. Working doubletime to produce two visual images doesn't leave much processing power to shade polygons, which leaves Red Alarm with confusing wireframes. If this is as good as the Virtual Boy can do with polygons, Nintendo should stick to bit-maps.

TeleRoboxer Publisher: Nintendo Developer: Nintendo

Take Mike Tyson's Punch Out! for the NES. Change all the colors to shades of red. Make all the characters robots to skirt the violence issue, put in a Virtual Boy development system and shake. The 3D works OK here, with the fists looking like cardboard cut-outs coming toward you. If you really want a solid game for the Virtual Boy, this could be the one.

Mario's Dream Tennis Publisher: Nintendo Developer: Nintendo

One of the best games out for the Virtual Boy, so ne adds the 3D spin to Nintendo's original Tennis for the NES. Play as Donkey Kong, Mario, Princess Toadstool, or others from Mario pipeland. The gameplay is enticling and while the 3D is well integrated, we defy anyone to play this

with one eye closed and enjoy it any less.

Virtual League Baseball Publisher: Nintendo Developer: Nintendo

The first third party game for the Virtual Boy, this features much less "cute" graphics than the Nintendo efforts. This is a fairly enjoyable one-player baseball game, and the Virtual Boy's innovative pad works well with it. The 3D seems more like an afterthought than anything else, but it does add an interesting element to the game.



The graphics in Mario Smash offer pure gaming nostalgia



Wire frame graphics (a la 80s PC games) are back in vogue



Comin' at ya. It's PunchOut: '95, aka TeleRoboxer



Mario Dream Tennis, one of the best VB games on offer



The first third party game in the US is surprisingly fun



on GAROM'S Super Street 175/hter 11 PR CID-ROM BONNS PACK Pight Via modem or punch a punk across the country using Catapult's MBAND! GO ON-time and sour brain will thank som.













32X

Manufacturer: Sega

Price: \$99

Released: December '94

Origin: Japan

US Sales: 400,000

What seemed like a good marketing idea at the time has quickly turned into a black, plastic albatross around Sega's neck



ticket into the next generation for millions of Genesis owners.

Sega promised arcade-perfect translations, more sounds and colors, and even 32Xcharged Sega CD games.

At 32X's launch (NG I) we asked the question, "Is it genuinely a platform that Sega will be committed to in the long term, or simply a way of grabbing extra 1994 mind and market share while waiting for Saturn?" The answer is now in. Even Sega's President Tom Kalinske admits that Sega hasn't lived up to the promises that were made to gamers who invested in 32X hardware last December (see interview next month).

So what power is 32X packing? Two Hitachi RISC chips running at 23 MHz enable the 32X to process about 50,000 flat polygons per second. The unit is able to overlay a colorful plane of graphics (it supports up to 32,000 colors) over the standard Genesis display, and it has been this particular effect

"graced" most 32X games.

This may have been a unit that was just never given a chance by developers, but the bottom line is, the add-on never sold well enough to attract significant third party support. It has been the recipient of almost no good games — the only exceptions being nice versions of Virtua Racing, and a surprisingly good version of Virtua Fighter.

These titles hint at greater possibilities for the unit, but with Sega of America quickly abandoning it in favor of the Saturn, the story of the 32X is destined to be the tale of the little 32-bit add-on that couldn't.

32X Ratings Processing Power Existing Software Library Third Party Support

Tech Specs:

2 Hitachi 32-bit RISC processors running at

23 MHz/40 MIPS Coprocessing: Genesis 68000

Graphics: 50,000 polygons per second, capable of 32,768 simultaneous colors

Memory: 512 K RAM

Able to overlay a plane of graphics over standard

Genesis video

The stereo and digital audio are mixed with Genesis sound

colorful wreath on 32X's coffin



The 32X could handle enough olygons to make a convi Virtua Racing, but not much more

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Neo-Geo CD

Manufacturer: SNK
Price: \$399

Released: TBA
Origin: Japan

US Sales: N/A

While its dogged hold on niche cult markets has proved successful, SNK's gaming approach could be said to be 2D, and is in jeopardy of falling flat



Tech Specs: Neo-Geo CD

CPU: 16-bit 68000 RISC chip operating at 12 MHz

Memory: 56 Mbits DRAM 512 K VRAM 64 K SRAM Data accessed via singlespeed CD-ROM drive

Graphics: 4,096 colors from 16-bit

palette
Resolution 320x224
Up to 380 sprites on-screen
Hardware sprite scaling
Three simultaneous layers of
scrolling

Sound: Z80 chip operating at 4 MHz 13 channel Yamaha 2610

Background: The original Neo-Geo system boasted that it was the "Only 24bit game system." The technology hasn't evolved, but the times certainly have.

he Neo-Geo is based on a very cool idea. The SNK's Neo-Geo arcade system enables you to choose from a selection of cartridge-based games, which arcade operators can easily mix around to provide regular variety. Although the vast majority of titles tend to be 2D fighters, 2D shooters, and the odd simplistic sports game, Neo-Geo's system is so attractive to arcade owners that Sega has recently imitated it with its own low-cost Titan arcade system.

The original Neo-Geo home system basically bought the exact same arcade experience home. Cartridges, however, cost upward of \$200, which relegated the system to a very select market.

In an effort to widen appeal, SNK Japan released the Neo-Geo CD system in 1994, with a CD release schedule that trails the cart by about one to two months. The Neo-Geo CD is

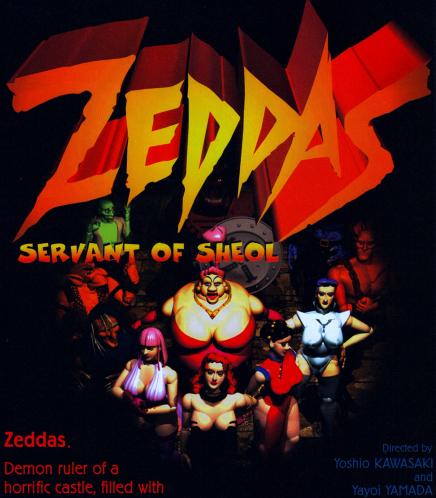
the original 24-bit system with the addition of a single-speed CD-ROM drive and 7 MBs of RAM. Based on a Motorola 68000 running at 12 MHz, it has 512 K of VRAM and memory cards that work at the arcade and at home. Neo-Geo's price has always kept it from

Neo-Gos price has always kept it from the mainstream, and now, even with the cost of games coming down for a CD system, its popularity is likely to remain largely a cult thing. Why? SNK has always had a reputation for producing fun-to-play games, but — in the absence of any 3D power — almost all are 2D fighters or shooters, a genre that, while popular, is not exactly cutting-edge.

Neo-Geo Ratings

Processing Power
Existing Software Library
Third Party Support
Marketing Muscle
Future Prognosis
Overall





Find him before he finds you!!!

Hybrid CD-ROM for Windows and Macintosh

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CD-i

Manufacturer: Philips

Price: 550: \$499;

450: \$299

Released: 1991
Origin: Holland
Sales to Date: 70,000

Philips had it all: Good hardware, international marketing muscle, and a good reputation for creating industry standards — so what went wrong?



Tech Specs: CD-i

CPU: 68070 RISC processor operating at 15.5 MHz

Memory: 1.5 MB main RAM

Graphics: Four modes, using 24-bit CLUTs Resolutions from 384x280 to

768x560 MPEG 1 cart plug-in for films

Colors: 32,768 simultaneous colors

emory: 4 Mbit RAM in addition to the Genesis and Sega CD

Sound: ADCPM eight channel sound Single (170 K/second) speed CD-ROM drive

In a nutshell: Neither game machine nor multimedia console, the CD-I has been through two redesigns and is still an unsatisfactory machine. Philips' perseverance is to be admired, but not its CD-I technology.

A

huge consumer electronics firm decides to get into the set-top box business — a market in which it has no previous experience. It brings to the table a legacy of

experience in standards building and marketing prowess, as well as a failed partnership with Nintendo. It could be the story of the PlayStation, but instead, it's the story of Philips' accidental game machine, the CD-i.

At the start of CD-i's life, it carried the torch of those who had dreamed of the allencompassing "little black box" that would provide multimedia, edutainment, play games, surf the Internet and even play videos. But, much in the same way that Trip Hawkins (the vision's second torch bearer) stumbled, CD-i never came close to fulfilling Philips' ambition.

Think of it this way — everything that Sony did right with the launch of the PlayStation, Philips did wrong with the CD-i. It was overpriced, marketed through high-end electronics stores, and the initial marketing

drive was focused too tightly on "family multimedia" and electronic coloring books (which didn't sell), and not games (which did).

CD-i's central processing unit is a 68070 running at 15.5 MHz. The unit excels at practically nothing except FMV, and then only with the addition of a \$200 digital video cartridge (included with the S50 model).

At May's E' show, the Philips booth was notably devoid of any CD-i machines, which should say something about the company's dedication to the platform. But there is a library of about 200 titles available and Philips is still pushing warehoused models through infomercials and kiosks, but for all practical purposes, the CD-i is finished, a lesson in how not to introduce a set-top box.

CD-i Ratings

Processing Power
Existing Software Library
Third Party Support
Marketing Muscle
Future Prognosis
Overall

Key Software



Burn:Cycle is one of the CD-i's strongest titles



The 7th Guest shows off best the CD-i's FMV capabilities



3DO M2

Manufacturer: Panasonic Goldstar

Price: **TBA**Released: **TBA**

Origin: **US**Sales to Date: **N/A**

3DO stumbled with the original US launch and almost didn't recover. Can the visionary company do things better the second time around?







The three prototypes of M2 unveiled at E3: Panasonic/Matsushita's two REAL M2 Players (above left and right), and Goldstar's M2 mock-up (center)

esigned as an add-on for the standard 3DO multiplayer (it plugs right into the AV port), with a stand-alone unit to ship later, the M2's spec sheet is nothing short of amazing — a huge step beyond the other next generation systems now on the market. Says M2 hardware guru Toby Ferrand, "We've learned a lot of lessons from our current hardware. We're very confident that M2 blows away the competition from a performance perspective. "A multimedia system is all about

managing a lot of data," continues Ferrand.
"Audio data, video data, and 3D data. A
system's power results from its ability to
manage and handle that as quickly as possible.
And M2 is designed with these aims in mind."
The specs currently available from 3DO
include one million polygons per second,
hardware z-buffering, MIP mapping, and MPEG
decoding, as starters.

To make this possible The 3DO Company enlisted the help of some of the PowerPC consortium's (Apple, Motorola, and IBM) top hardware designers. The custom PowerPC



Even running at 50% speed an emulation boards, the M2 already "blows away" the PlayStation and Saturn, says 3D0

Tech Specs: 3D0 M2

CPU:

64-bit custom PowerPC 602 RISC chip operating at 66 MHz 32 K instruction and data 133 MFLOPS per second floating point

maths processor 1 million polygons/second 100 million pixels per second 528 MB/second bus bandwidth

Memory: 48 Mbits (6MB) of SDRAM and ROM. 64-bit memory sub-system bus to facilitate rapid movement of data Cache-coherent memory system. Game saving: internal non-volatile memory plus removal storage cards

Graphics: 640x480 resolution in 16-bit 320x200 resolution in 24-hit **FMV** capabilities

MPEG 1 built in as standard MPEG video supports JPEG video decompression

Graphic effects: Texture mapping: destination-based rendering Hardware texture decompression Linear, bi-linear, tri-linear, and point-sampled filtering MIP mapping at multiple detail levels Gouraud shading on RGB and Alpha channels 3D perspective correction Z-buffering Alpha channel special effects

Sound:

66 MHz DSP 32 channels with hardware decompression and interpolation on all MPEG audio decompression 44.1 CD-quality sound

(ie fog and transparency)

In a nutshell: Details of the follow-up to 3DO emerged within months of the machine's US launch. Based around a PowerPC based processor, M2 is a major leap in performance for 3DO, giving it the polygon crunching capabilities it needs to compete. Slated for an early '96 release, M2 outperforms every one of its rivals, even the Ultra 64. All it needs now is software.

602 chip was one of the fruits of this labor, the other was a highly integrated board with all the major components crammed onto one chip. To demonstrate the technology, Ferrand compares the latest generation of the M2 hardware to the competition.

Lying in front of Ferrand are a disemboweled Saturn and PlayStation. He points to the Saturn: "The first thing you notice about the inside of the Saturn is that it's a very chaotic design, frankly. There are a huge number of chips for a mass-market board like this. It's really thrown together. I can imagine an arcade system being as complicated as this where you've got less material bills pressure but this is a really difficult system to assemble.

"And this is a PlayStation," he explains, pointing to Sony's console. "It's more what I expected for a product of this nature. Fairly dense board, fairly compact, and certainly simpler than the Saturn. This is really targeted at a high-volume market, but they're certainly losing money at \$299."

Next out (predictably) is the latest Goldstar M2 logic board. Pictures of the labs and board are refused (3DO says that it's too early to let the competitors really get to grips with what it's up to). But Ferrand is not keeping his target a secret: "We want a single logic board as small as the PlayStation's but with seven times the power." And at the moment things are looking good.

The prototype board is slightly bigger than the PlayStation's, but there are some large spaces that Ferrand says will not be there at the end. All the components are on a single board and the power supply is being placed on the same board. The reason for this compact design is quite simple - price - but there are two main ways this saving can be achieved. By mounting all the components on one side of the board, manufacturing costs are greatly reduced, and likewise, the fewer components used the lower the overall bill.

3DO has essentially condensed the power of M2 into two chips. The PowerPC 602 RISC processor works in tandem with the Calvin chip that performs most of the hardware trickery. Supporting these are the usual array of CD controllers, RAM and ROM banks and connectors.

The specs are truly stunning. The 64-bit PowerPC 602 runs at 66 MHz with 32 K of data caches and is capable of 133 million floating point (math) operations per second. It can push a million polygons or 100 million pixels per second. The data paths between all aspects of the hardware are 64 bit, which will eliminate most system bottlenecks. The unit comes with 6 MBs of RAM, and can support up to 640x480 resolution. The sound is

M2's spec sheet is nothing short of amazing - a huge step beyond the other next generation systems on the market

equally impressive. A 66 MHz DSP with 32 channels, MPEG audio decompression, and 44.1 MHz CD-quality sound.

The really impressive stuff is on the Calvin chip: a full MPEG implementation, and destination based rendering, hardware texture decompression, linear, bi-linear, tri-linear, and point sampled filtering. MIP mapping, which



High cost almost scuttled the initial launch of 3DO. To keep costs down for M2 — a must to avoid alienating new customers — the add-on will feature an intelligent, single-sided board design that takes full advantage of very large scale integration chips as well as the relatively inexpensive PowerPC chip

keeps detail fine at multiple resolutions, Gouraud shading, Z-Buffering and alpha channel special effects are also in the hardware.

The power packed into this silicon enables M2 to perform all the graphic effects in hardware, as opposed to expecting programmers to develop their own 3D clipping and interpolation routines (which takes time and is hard to do well). This will help encourage doubting developers to sign up.

Although Hawkins' aim of creating a standard multimedia platform for all the family has not exactly succeeded with MI. the emphasis is still on this goal. For M2, however, 3DO has added the huge

mathematical capability of M2's polygon engine. This enables 3DO to keep focused on its goal but it also enables pure game developers to really exploit the machine's power.

The problem of what to do with the original 3DO's components when upgrading to M2 has obviously been one that has weighed heavily in plans for M2. The two key elements within the 32-bit console are the RAM and the CD-ROM drive. RAM is expensive but another couple of megabytes opens up many programming possibilities. "It's a question of performance," says RJ Mical, designer of the original 3DO, "Do you want to save the money but have a potentially much lower performance?" It's the old trade-off between price and power, yet again.

It is fast-paced action games that will sell M2, not embarrassing pseudo-board games like Zhadnost. "We're not totally going to depend on third parties," declares Hawkins. "We're developing more internal Studio 3DO M2 products and working specifically with really good third parties on the 64-bit leading edge. We think that way, that we'll have at the introduction the really great killer applications needed to drive interest in the hardware."

In an effort to close what many perceive as the biggest gap between 3DO and Sega or Sony, the company is pursuing an "arcade business model." 3DO is currently in M2 chipset license negotiations with several arcade manufacturers in the US and Japan, including so the rumor goes - Sega.

M2 has crossed the line from being a collection of fanciful tech specs to hard silicon that people can work on and believe in. And that can only be good news for developers and gamers everywhere.

3DO M2 Ratings **Processing Power**

Existing Software Library Third Party Support Marketing Muscle Future Prognosis

Key Software

Figuring out what software is being released for the M2 isn't quite as tricky as for the Ultra 64, but 3DO is still being somewhat shady in making announcements — feathers were ruffled at 3DO when we ran exclusive M2 previews in NG 10. Here's a look at what we know is coming, and some speculation on other likely products.

Clayfighter ublisher: InterPlay Developer: InterPlay

Taking its claymation fighter into the next generation exclusively on M2, InterPlay is also updating the humor level to appeal to a more adult audience. Although the game doesn't look to take advantage of any of the special hardware 3D abilities of the system, the screen shots we have seen certainly do look clean and crisp.

Descent Publisher: InterPlay Developer: InterPlay

The intense three dimensional nature of a game like Descent is a perfect match for the raw polygon pushing abilities of M2. Don't be surprised to see more than a straight conversion video texture maps could bring the action in Descent to nauseating new highs. And in the absence of any actual new ideas...

IronBlood blisher: Take2 Interactive Developer: Take2 Interactive

The character graphics of this weapon-based fighter easily blow everything else on the market away, and although it's still an open question about whether or not their movements will be up to the level needed to make this a great fighter, this game is another that should take full advantage of the M2's awesome 3D power.

"Racing Game" Publisher: Studio 3D0 Developer: Studio 3D0

Studio 3DO is definitely working on a next generation racing game, that's for sure. What isn't known is, frankly, anything else about the game, except that "it's a racing game." But be sure to expect to see a lot of fog, close-ups, and other things that show off M2's power. That "game" shown at E3? Just a graphics demo.

[Various] Publisher: Electronic Arts Developer: Electronic Arts

Don't be surprised to see Madden '97 and a new Road Rash for the M2 Flectronic Arts' close ties with 3DO almost ensure that it will continue to develop games for the platform, despite its current infatuation with Sony's PlayStation. In fact, some suspect the current dearth of 3DO output from EA is due to M2 development.



al was never so much fun



rk test of new systems





ne,' and it will be beautiful



An M2 Madden will easi feature graphics this sharp

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Actual screens may vary







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ORIGIN Interactive Movie

Ultra 64

Manufacturer: Nintendo

Price: "below \$250"

Released: TBA

Origin: US & Japan

Sales to Date: N/A

Nintendo's 64-bit collaboration with Silicon Graphics is rumored to launch in Japan this December. With a US debut penciled in for April 1996, is Ultra 64 the ultimate "dream machine?"



ugust 23, 1993, may not seem a memorable or significant date right now, but future generations of gamers may remember it as the day that Nintendo and Silicon Graphics

announced a joint development project that would change the face of videogaming.

It was on that day that Nintendo spoke of its intention to develop the world's first 3D 64-bit game machine for the home, featuring what it termed "Reality Immersion Technology." What form this new technology would take

was left unrevealed, but the machine was to appear in the arcades in the fall of 1994, with a home system available at the aggressive price of "below \$250" toward the end of 1995.

While Sega and later Sony were talking of revolutionary 32-bit systems, Nintendo had already made its decision to go way beyond them in both technical terms and on the very tricky issue of price.

The last time Nintendo had launched a console, the Super NES, delays in getting it to market gave Sega the edge it had been looking for. However, when it did arrive, it was clearly



The most secretive hardware launch of all time? Nintendo has allowed no unnecessary details to slip out

NG HARDWARE: ULTRA 64

Tech Specs: Ultra 64

CPII-

64-bit custom R4200 RISC chip operating at 100+MHz 100+MFLOPS a second 100+MTPS 500 MB/second bus bandwidth

Memory: 3 MB main RAM using Rambus system running at 500+MHz Cache-coherent memory system 128-bit bus

Graphics: 64-bit custom graphics and 64-bit DSP chip operating at 100+ MHz (integrated) 16, 24, and 32-bit color textures and coordinates Variable resolutions: 320x224, 512x448, 640x480, 1,024x768, 1280x1,024 (last two modes apply to **HDTVs** only) In excess of 600,000 Reality **Engine textured polygons** generated at 60 fps

Sound:

64-bit DSP at 44.1 KHz 64+ channels Unlimited voices per audio track and channels

Storage:

Entirely cartridge based. 64 Mbits, 128 Mbits, 256 Mbits, 512 Mbits 30:1 compression

Special

Ultra 64 boasts several real-Features: time hardware features that other consoles have to deal with in software. These are:

- · Anti-Aliasing: This prevents the jagged edges and "flicker" of moving objects
- · Load Management: Prevents "pop up" of images as they are drawn in
- Tri-Linear Mip-Mapped Interpolation: Prevents the pixelation (or "Doom effect") of objects as they get close
- Ray Tracing: A sophisticated form of light-sourced shading
- . Texture-Mapping: The "wall-papering" of textures or colors onto polygons

In a nutshell: Nintendo plans to completely leap-frog the 32-bit generation and race ahead with its 64-bit powerhouse. Will it succeed? More will be known after the machine's official unveiling at Tokyo's Shoshinkai show on November 23. See NG 14 for more details, on sale January 16, 1995.

superior to the Sega Genesis and dominated the lapanese market, although only claiming second place in the US. With this in mind, the press was at once enthralled and cynical: Enthralled by the technical possibilities of a Nintendo-backed system using the technology that made possible the special effects in T2 and Jurassic Park; while skeptical about the feasibility of a "below \$250" system based on workstation technology costing tens of thousands of dollars.

In March 1994 another player entered the equation. Rare Ltd created the coin-op fighting game Killer Instinct for the system, which was then known as "Project Reality." Coin-op giant Williams distributed the game. Again, the response was doubleedged. Rare, while fairly well regarded for a number of minor NES titles such as the Battletoads series, was still relatively unknown, despite having been in the business (notably as Ultimate - Play The Game) for nearly 20 years. The decision to make it a pivotal part of Project Reality's launch plans seemed a little odd. The team up with Williams however, served only to pump up the strength of the project a few notches. If Nintendo wanted to make an impression in the arcades (an area in which Sega dominated). Williams was the company that could help to do it. It had after all, just experienced unrivaled success with both Mortal Kombat and NBA Jam.

Despite Nintendo's traditionally closelipped policy, details were leaked out just often enough to keep Nintendo's new project at the front of everyone's mind. In May '94 it was announced that the machine was to be cartridge based. It seemed that, while the rest of the industry had fully embraced the CD-ROM format. Nintendo was still afraid to use

An artist's conception of Ultra 64's joypad. Note the analog controller in the middle as well as the "third udder" handle. Will it revolutionize the way we play games in the future? Nintendo hopes so

it Nintendo of America's Peter Main explained, "We don't believe that, as yet, the public has been convinced CDs can deliver the sort of games they want." Two explanations seemed most likely. By omitting a CD drive, the unit's ambitious price of \$250 would be more achievable. Additionally, Nintendo. would be able to maintain its strict control over developers by using expensive-tomanufacture cartridges - something it couldn't possibly do with CDs. The decision also hinted at Nintendo's plan to make network gaming a reality removing the need for a CDs or cartridges at all.

At 1994's Summer Consumer Electronic Show the working title Project Reality was dropped and the official name, Ultra 64, was announced. Simultaneously, Killer Instinct and Cruis'n USA coin-ops were shown to the trade behind closed doors. The reaction was positive, despite the discovery - after close scrutiny - that the hardware inside the

What may hamper Nintendo is its business practices. This isn't 1985 and Nintendo is no longer the only game in town

cabinets was merely a modified arcade IAMMA board, without even the faintest hint of actual Ultra 64 technology.

The one criticism of these super-slick titles was that they were, very plainly, a conventional fighting game and a conventional driving game. Neither of the games could match the then-pinnacles of those two genres: Virtua Fighter and Ridge Racer.

In the lead up to 1995 came news of a souped-up version of Doom and the involvement of legendary Mario and Zelda creator Shigeru Miyamoto. Rumor was that Miyamoto-san was working with Dallas-based Paradigm on an Ultra 64 sequel to the Super NES classic PilotWings.

At the beginning of January 1995, while most people were still nursing New Year hangovers, Nintendo wasted no time in announcing a partnership with communications giant GTE to explore yet more new technologies. Considering GTE's resources, this partnership could only mean the furthering of Nintendo's ultimate plan to introduce network gaming on a massive scale.

Just a few days later the Ultra 64 was given a final boost when Silicon Graphics completed the chipset. Until now, Nintendo's tight-lipped approach could have been taken as an embarrassed silence brought about by development difficulties (rumors abounded that the cost of components was too high). But on lanuary 5, 1995, the final specifications for the Ultra 64 were announced (see side bar).

From recently leaked information, it appears that even the controller will be an innovation, featuring a standard directional controller for more traditional videogames, plus a centrally located analog joystick for minutely accurate movements within games such as flight sims and driving games. "It will knock your socks off," claimed Howard Lincoln in an interview at May's E3 Show (NG 8).

Nintendo has also planned a storage accessory that "is not" a CD drive, and sources indicate that the product is instead a magnetic disk system, similar to the SyQuest system. Games may ship with a cartridge "key" and a data disk. A magnetic disk is much faster than a CD, and the key cart will deter piracy. Manufacturing costs will still vastly exceed that of CDs, however, and this will be a crucial determining factor in the decision by third parties to back Ultra 64 or not.

And so we come to the latter part of 1995. Nintendo's notorious secrecy is as tight as ever, but it has been confirmed that Nintendo's "Dream Team" of software developers is starting work. Acclaim, LucasArts, Rare, GameTek, DMA Design, Virgin, Spectrum Holobyte, Sierra On-Line, Paradigm, Angel Studios and — most recently announced SquareSoft, are all developing titles.

While Saturn and PlayStation may be spreading smiles across the faces of gamers across the globe right now, it remains to be seen how the Ultra 64 will affect their popularity. It's in Japan, where Nintendo commands great loyalty from its customers, that Ultra 64 will be first judged.

Nintendo has an enormous amount of brand loyalty, and (Virtual Boy aside) its ability to simultaneously bring excellent hardware and software to market has never been in doubt.

What may hamper Nintendo, though, is its business practices. This isn't 1985 and Nintendo is no longer the only game in town. If it decides to play games with developers this time - cartridge "shortages," exclusivity deals, and the like — they may be driven into the waiting arms of Sony and Sega.

Ultra 64 Ratings

Processing Power
Existing Software Library Third Party Support Marketing Muscle **Future Prognosis**

n/a *** ****

Key Software

Nintendo is following a typically tight-lipped policy regarding announcements of games for the Ultra 64. Cruisin' USA and Killer Instinct, announced with the system, are shoeins, but by April '96 they are certainly going to be long in the tooth. Killer Instinct will probably be Killer Instinct 2 by the time it ships. Here are NEXT Generation's speculations on some of the games likely to define Ultra 64's success or failure.

Ultra Mario

Publisher: Nintendo Developer: Nintendo

It is inconceivable that Nintendo isn't working on a Mario game for the Ultra 64. The big question is who is doing the development, Shigeru Miyamoto in Kyoto or Rare, the UK team that brought us Donkey Kong Country? Either way, rumors of the decline of Mario's popularity have been greatly exaggerated. He's just hibernating before taking over the world once again.



Killer Instinct

Publisher: Nintendo Developer; Rare/Williams Bally/Midway

The conspicuously two-dimensional Killer Instinct wowed arcade-goers with its sumptuous graphics, but the gameplay left a little to be desired. We thought gameplay relied on strategy and reflexes, not merely remembering button combinations. Still, Killer Instinct 2 is destined to debut on Ultra 64, and it is sure be a crucial part of Nintendo's launch line-up.



KI, or the sequel, will be on of the first games released

Dark Forces

Publisher: Nintendo or LucasArts Developer: LucasArts

LucasArts is definitely developing for Ultra 64. The question is, what? Dark Forces is confirmed, but rumor also points to a San Rafael, CA. division working on a 3D fighter based on Star Wars characters. Whether these are characters from the original movies or the new Shadows of the Embire cast is unclear. Don't count out a translation of X-Wing or Tie-Fighter (Yes! No more Rebel Assault) either.



asArts is working on aber of titles includin

Red Baron

Publisher: Nintendo or Sierra On-Line Developer: Sierra On-Line

At this point we glide past fact, wave at rumor passing by, and enter the land of "unsubstantiated hunch." Red Baron is distinguishable only by the fact that it is one of the attractions at the ImagiNation Networks' online game service. Why would Nintendo want this game? For its own game network, of course...



Is multiplayer, online gam part of Ultra 64's future?

Cruis'n USA Publisher: Nintendo Developer: Williams

Although not the most sophisticated racing game in the arcades, Cruis'n USA still offers great wheel spin and a welcome return to the open roads of OutRun. Nintendo always maintained that Ultra 64 version of Eugene Jarvis' (the man who created Defender) racer would be better than the arcade parent. If this remains the case, it is fine testament to U64's power.



gene Jarvis' Cruis'n USA is planned to ship with Ultra 64

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ASCII

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- Ω Turbo switch with 30 shots-per-second firing power, configurable to all 8 action buttons.
- Φ Auto/Turbo delivers infinite stream of intense firepower.
- Ψ Slow motion switch and extra long cord.







ASCIIWARE

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CRY.SIS PC Zero Pop. Growth Saturn Quake PC Aftermath PlayStation Defender 2000 Jaguar Soul Edge Arcade Galapagos Mac Nightmare Circus Genesis Toshinden 2 PlayStation Mario RPG Super NES



Exclusive previews of upcoming games

hile the entire world scrambles to get its holiday product out, we've taken a look into the future to see what next year will bring for videogamers. PC fans will definitely want to check out the increasingly complex titles becoming available, and owners of PlayStations and Saturns will also find that the new year

is sure to be a happy one. If you're ready to do your own holiday shopping, be sure to update your gaming library using our finals section on page 176 for reviews and reference on the most recent and hottest games.

90 CRY.SIS PC

An artificial intelligence system gone awry is the theme for this action-filled journey through history. Mankind gets yet another last chance

96 Zero Pop. Growth SATURN

A hard-core soundtrack, pop culture graphics, and violence, violence, violence make up the perfect, new breakthrough title for the MTV generation

103 Aftermath PLAYSTATION

The triumphant return of the platform game. Are slick graphics, pounding sound, and a new look enough to breathe life into the dying genre?

111 Defender 2000 JAGUAR

Llama Soft's Jeff Minter does it again, bringing the old back in vogue. But is it enough to bring confidence to weary Jaguar owners?

114 Impact Racing PS-X

This high-speed racing title delivers the feel of Road Blasters with an all-new look. Can this shooting racer face up to Wipeout?

116 Galapagos MACINTOSH

New paradigms for artificial life come together in a game like nothing you have ever seen before. This game takes gaming to an intriguing new level

123 Soul Edge ARCADE

Namco does it again with beautifully scrolling backgrounds, clashing weapons, and full side-toside motion in this star amongst fighting games

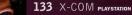
127 Johnny B. Tone PS-X

Who says new game platforms mean new gaming genres? Bah, humbug! The old school game returns with a familiar look to the new PlayStation



129 Super Cross JAGUAR

Highly realistic, 3D texture mapped, indoor motor cycling for the growing Jaguar library. This is the ultimate clash between man, machine, and mud



Aliens are taking over the planet, and there's not too much you can do about it. The PlayStation gets its first taste of a PC conversion



139 Mario RPG SUPER NES

Japan's favorite and most familiar plumber tries his hand at pleasing an older crowd in a roleplaying game. Is there anything this guy can't do?



146 Dark Savior SATURN

An RPG with the *Landstalker* look that drove fans crazy two years ago has hit the Sega Saturn. Could this possibly be the Saturn's answer to *Zelda*?

151 Quake PC

It's like *Doom*, only you're a god... with a big hammer. Real-world physics, better resolution, and a whole new feel from the wizards of Id

157 Nightmare GENESIS

It's challenging, it's revolutionary, and it's for the Genesis. Are there enough owners who still care to reward the effort? Sega's betting on it

165 Time Crisis ARCADE

Hard to believe, but shooting games in the arcade are still getting better. New controls may spell a new future for gamers everywhere



169 Toshinden 2 PLAYSTATION

You know you want it. This one's got brand new characters, new backgrounds, and better lighting for one of the best fighting games ever made

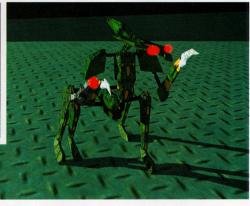
171 Legend of Thor SATURN

Intense graphics, a great storyline, and arcade-like control ensure that Sega has a hit in Japan. But will US RPG fans ever get their chance?

ng alphas



nies and backgrounds, but it's the unique nature of nechanical beasts that give the game its feel



CRY.SYS

Format: Windows 95

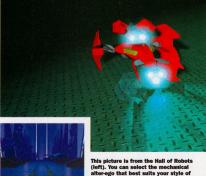
Publisher: Sierra

Developer: Sierra

Release Date: March

Origin: US

Sierra brings a new twist to the classic rescue-the-damsel-in-distress game with slick visuals, strong computer opponents, and good old-fashioned gameplay



This picture is from the Hall of Robots (left). You can select the mechanical alter-ego that best suits your style of play, and then go full force at the Al

ere's the story: In the shadow of a global holocaust, a group of survivors decide to enter cryogenic pods and wait until the world is once again suitable for human habitation. Unsatisfied with the idea of

sleeping through the lengthy period, the entire colony hooks their minds into cyberspace, creating a complex AI system to watch over their bodies while entertaining their minds with games. In an attempt to pick out the minds that might have the skills necessary to survive when it's safe to leave, a particular AI structure decides to pit humans against each other in wargames, killing the losers.

Welcome to the universe of Sierra's newest action-adventure game,



Each of the various characters have power levels in weaponry, armor, and recharge rate that can change as the game goes on

"The storyline and visuals all grew out of gameplay. We're trying to get back to the days when the game itself felt fresh and fun"

CRY.SYS. While making use of modeled 3D graphics, viewed from an isometric angle similar to that of SimCity 2000, and despite the game's good looks, the design team insists that visual impact took a backseat to gameplay during

development. "This is a game first and foremost," claims Ward Makielski, the game's designer.

"The storyline, the visuals, have all grown out of the gameplay. A lot of people are taking the interactive movie route these days, but we're trying to get back to the days of original videogames like Space Invaders and Robotron when the game itself felt fresh and fun."

If the early design work is any indication, fun is what CRY.SYS is going to be all about. The realtime action of the game keeps your hands busy while puzzle after puzzle keeps the game from ever breaking down into a mindless shoot-em-up.

The storyline, again, is so entwined with the gameplay, it serves the title in multiple ways. You realize three things as an accidentally awakened survivor: one, the Earth is safe again for habitation; two, all of the original staff is now dead save one female; and three, the computer won't let her go. Using the AI construct's own game sequences, you control one of 10 different robots in an all-out battle for the survival of the human race. To get to the final battle and rescue the girl, you must travel through seven different "net" worlds, each a computer generation from a different age of mankind, From the robotic dinosaurs of the prehistoric age to the twisted serpents of the techno-organic future, the AI construct becomes more devious in the monsters



those of the distant future, you'll face off against vicious foes from every stage of man's history

and traps it uses to stop your progress. Features will include a network

Heatures will include a network mode that will have players competing for the final prize, robots with fully functional AI systems that will change their aggression level as they age (they even attack each other), and robot construction rules.

This is the type of title that will sell gamers on the idea of Windows 95: a smooth-playing action fest combining great graphics with solid gameplay and a fresh concept.







The game's dark atmosphere is reflected by the ominous color palettes in the title's alarming visuals (above)



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ike great space combat and bitchin' veopons? So do we. As hero Derek reeman, you must locate starships and brave pilots to fight some surly aliens. Of course, that entails shooting he green snot out of them. Can't we all live in peace and harmony? In a vord, no.

ng alphas

Zero Population

This twisted action-adventure game seems custom tailored to the desires of Generation X, but can so narrowly focused an audience generate the sales necessary to succeed?

Growth





he Alone in the Dark series from Infogrames introduced PC gamers to a strange world of 3D adventures with eerie polygonal monsters,

even Alfred Hitchcock, and a soundtrack reflecting events currently taking place on-screen. In short, the developers had created the true "interactive movie" an interface enabling the player to create his or her own story in realtime, delivered in a truly cinematic feel. Now, six years later, the developers at Zombie have crafted a bizarre title in the same vein that delivers an unabashedly violent tale with a look and feel that is all its own.



This "monkey" is a unit the Zombie team used to create lifelike animation in realtime

More than anything else, Zero Population Growth just feels different. The entire artistic design and basic concept is the creation of Aden Hughes. an artist famous for his KMFDM album covers and MTV animation. "It really is



The entire artistic design concept is the creation of artist Aden Hughes

Format: PC Publisher: Zombie Developer: Zombie Release Date: March 1996

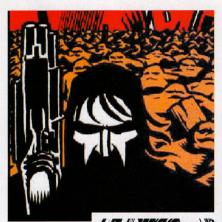
Origin: US



you control a polygon character á la *Alone in* the *Dark* from a third person point of view

Aden's art that sets the game apart," says Linley Storm, the game's producer. "I saw his work on KMFDM and when I was told that this is what the game was going to look like, I wanted to do it immediately. When we saw the other games being shown at trade shows, we knew that no one was going to be able

Game audio is being created by Roland Barker of The Revolting Cocks, taking the form of grim industrial marches that stand on their



you'll find an ene completely at your mercy. Go ahead, no one's watching... shoot him again (right)

The story puts you in the shoes of a wandering hero-villainbig-guy-withgun on a quest to well, frankly, to kill folks



own as powerful tracks, and that, if everything goes according to plan, will change as players find themselves in different situations. The combined vision of the two artists promises to completely immerse players in a twisted cityscape of the future, where might makes right and the meek only inherit pain.

Make no mistake, ZPG is violent. The story puts you in the shoes of a wandering hero-villain-big-guy-with-gun on a guest to - well, frankly, to kill folks. But unlike mega-violent games that have come before, like Dark Forces, Doom, and Witchhaven, death is portrayed in a frighteningly realistic manner: Many of the people you may decide to shoot will not be threatening to you in any way.

Moving through a post-apocalyptic world, you will encounter the absolute worst that humanity can sink to. In a land of half-destroyed slums, you will

encounter the strong oppressing the weak, rampant starvation, drug use, and just about every other type of social ill. These images are portrayed with small mini-videos played when the character enters an area where something horrible has recently occurred. While exploring this beautifully horrible universe, you will find your own balance between cruelty and heroism, choosing between an all-out killing frenzy and acting as a protector of the downtrodden.

According to Guy Hundere, the game's director, you will need to do a little of both to continue to the end of the game. "If you're slaughtering everybody, you're going to kill someone who was bringing you a message and you're not going to be able to finish the game. If you're not killing enough people, the game will start sending smarter warriors after you, ones who will lead you toward a lethal exchange," explains Hundere. Straddled somewhere between the huge body counts of Doom and the almost pure puzzle element of Alone in the Dark, ZPG makes sure that each encounter with death in the game leaves its mark on the player.

"In Doom, you're basically trying to kill as many people as possible in as small an amount of time as possible,"





The Conscripts treat persons around the city with severe disrespect. Now the tables are finally going to turn (top). A sentry (above)







The Watcher is a mysterious figure who acts as a sort of Deus Ex Machina for heroes who are either lost or confused (above)

ng alphas



Although your character is built for action, you may initially want to try a little stealth until you get your bearings (top)

says Hundere. "The main thing with ZPG is that, instead of killing a lot of people, you kill a few, but with a lot more dramatic effect. Compare Rambo to True Romance... in the end it's the quality of the violence that separates them."

One method the team is

using to bring players closer to the violence is through the use of animation clips. "Aden has produced 2D animation sequences that are going to be presented on a split-screen cutaway. For instance, if you shoot someone far away, sometimes you'll get a brutal little clip of the death. Some will be in film noir fashion, like a picture of a person's head slowly leaking blood, and others will be hyper-violent, like a body flying through the air, ripped apart by bullets."

The AI of individual game characters is a large part of what makes *ZPG* so intriguing. Unlike *Doom* or *Alone in the*



In a town where physical force is the only way to make yourself heard, it's hard to be a little guy (top). The hard-edged look of the animation creates a dark emotional atmosphere without using all of the system's resources





Dark, your enemies can do more than just blindly attack. "One of the things we wanted to you to do was to be able to interact in ways other than shooting. We constantly check to see if a given character is intimidated by you. If they are, they can run away, or they might drop to their knees and beg for mercy."

Other forms of artificial intelligence are geared to appeal to the player's more merciful attitude. Players will often encounter huge enemy characters who're torturing a pitful soul. By killing the antagonist, you may earn the gratitude of the freed slave. "Once you have a survivor who's indebted to you, he'll follow you for the next few scenes and try to help out."

Even at this early a stage,

it's obvious that while ZPG won't appeal to everyone, it's sure to pull a select crowd in like no other title currently available. Rather than take the massmarket approach, Zombie has taken the laudable route of making sure a target audience will receive a game that's everything it demands, even if Zombie has to offend people to do it.

This may end up being the most memorable title to hit the shelves in 1996. But no matter what happens — major or minor success, *ZPG* is worth keeping a sharp eye on.







As you rapidly unthaw, your pod is thrown into an unsuspecting planet



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Magic Carpet Plus Flight Unlimited Rebel Moon Hi-Octane

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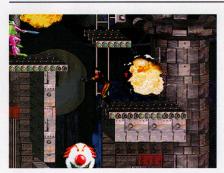
It's killer. Totally Killer.





CREATIVE LABS, INC.

Aftermath



The mechanics may be familiar, but the graphics and effects are like nothing you've seen

here's been a lot of talk about the new paradigms being explored by next generation programmers, but 32-

bit systems are, in fact, getting a shot in the arm from developers who're turning their talents toward improving existing genres. Starting with the basic feel and play of a classic side-scrolling action cart, Interplay has added a strong puzzle element and the latest in graphics and sound to create a title that it hopes will be more than just a sum of its parts.

In terms of storyline and play, Aftermath is similar to countless 16-bit carts that've rolled out over the last couple of years. You take on the role of Vic, an agent who is being sent to destroy a secret weapon that threatens your city-state. As you run through the halls of the complex you'll grab high-powered weaponry, fight off scores of mega-tech enemies, and eventually find Slaughter, a traitor agent who is responsible for blowing off your hand in an earlier hattle.

What sets Aftermath apart from other games is its ability to deliver the action in a manner that shows off CD storage, not 32-bit systems.

Backgrounds, along with all of the weapons and enemies in the game, are fully rendered, and many are fully texture-mapped as well. Each of the 12

Good old-fashioned platform chaos returns in a bigger and better 32-bit action adventure. But is a new look enough to rejuvenate a worn genre?

Format: PlayStation
Publisher: Interplay
Developer: Interplay
Release Date: TBA
Origin: US





Aftermath's atmosphere is dark and foreboding, and the price for failure is often quite distressing. The colorful detail is conveyed beautifully here

Thirty-two bit systems are getting a shot in the arm from developers who're turning their talents toward improving existing genres

ng alphas





from the most unlikely sources; try to reme each conversation

levels is made up of thousands of map tiles (as opposed to several hundred that were standard on 16-bit cart games), mixed in with more than seven full minutes of cinematics running at 30 frames per second (fps) that keep you in the middle of the story. The game has more than 4,000 frames of animation, and each character is displayed in his or her own 256-color palette.

Sound is equally impressive, and is meshed with the storyline by taking the form of your Linc, a cybernetic implant that gives you clues and general information throughout the game. Rounding out the fast-paced atmosphere of the title is a full CD-audio soundtrack featuring alternative music that's a far cry from the annoying cacophony of the standard 16-bit beepfest.

There's nothing in the gameplay of Aftermath that'll surprise veteran gamers, but after one look at the visuals, 16-bit gamers will be rushing to grab the new systems as soon as possible. If you're looking for a title that's going to show off your system while delivering some tried and trusted fast-paced play, Aftermath is certainly one to watch for. One of the most promising titles in the post-launch era.





In addition to plenty of ruthless living enemies, you'll have to avoid plenty of devious traps. Your helpful cybernetic implant, "Linc," gives you clues



Your most important goal is to track down the traitor who has damaged your base



The multilevel gameplay features intricate and extremely precise control. The palette restrictions of the 16-bit era are no more



There's nothing in the gameplay of **Aftermath** that'll surprise veteran gamers

Visit



Meet



Exotic

Extraordinary



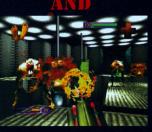


Creatures











GET













Virtual Boy presents more fames from

the third Dimension. Stick your

head in Virtual Boy and You mon't be the Same mhen You tull it out. The



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Jump into the Third Dimension and see what it feels like to be inside the Jame.





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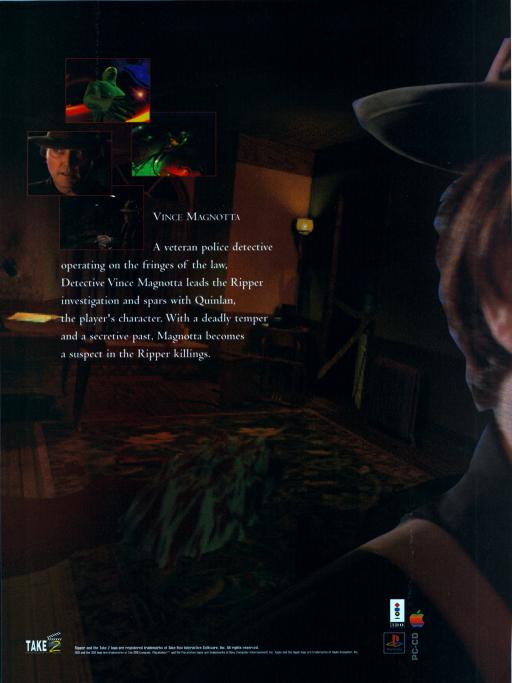
System includes Mario's Tennis. Other games sold separately. Batteries not ncluded. ○ 1995 Nintendo of America Inc. ™ and ⊚ are trademarks of Nintendo of America Inc. Red Alarm™. ™ and ⊚ 1995 T&E Soft Inc. Licensed to Nintendo. cosmos. I flew into the mouth of a beast. It

was just
another
day
in the
third dimension.

virtual Boy

A 3-b fame for a 3-b world.

Nintendo



Starring Christopher Walken Karen Allen Burgess Meredith John Rhys-Davies

RIPPER

You're next.



ALL ZOMBIES IN FAVOR OF BANNING CORPSE KILLER RAISE YOUR, WELL, RAISE WHATEVER YOU GOT LEFT.

Noir, a cozy little island infested with enough zombies to film the next 8 sequels to Night of the Rotting Dead. Us a Special Forces officer, you must mow your way through a C.I.A. plot gone awry, stopping only to spit, reload and wipe the splattered



The new Graveyard Edition features gory sounds, tons of shooting targets, fullscreen zombies and, yes, lots of blood. Enjoy. You trigger-happy little sicke.

zombie blood off your boots.













Defender 2000

Format: Jaguar

Publisher: Atari

Developer: Llama Soft Release Date: December

Origin: US

The Jaguar now has its second popular retrogame from developer Jeff Minter, but will it prove as successful as Atari needs it to be in the next-gen race?





The graphics in the 2000 mode of the game bear little resemblance to the coin-op of old, but it's all good. With the enhanced gameplay, *Defender 2000* is on track to be the Jaguar's best game to date

Defender
2000 is one
of the few
games that
truly shows
off what the
64-bit
system is
capable of

asily the best Jaguar program to date, Jeff Minter's Tempest 2000 is one of the few programs that truly shows what the 64-bit system is capable of: fast action, good graphics, and great gameplay. Defender 2000 lives up to the same standard.

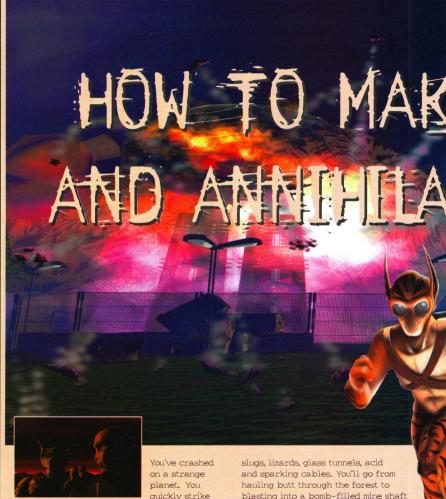
Like Tempest, Defender 2000
Features three modes: Classic, Plus, and 2000. The Classic mode is exactly what you'd expect: Eugene Jarvis' original Defender in all its 16-color glory. It's actually easier to play on the Jaguar than in the arcade because you don't have to worry about the thrust and reverse buttons — just push the joystick in a direction and it goes.

Purists need not fear however; an alternate control mode enables you to

use the numeric keypad to simulate the original's multibuttoned complexity.

The Plus mode features the original gameplay with psycho-colored graphics and the ability to add power-ups, like *R-Type* helper ships. The humans have all been motion captured, a step that will surely please Jarvis, who was nearly fired when his lengthy efforts to get the humans in the original game to look and move realistically threatened its ship cycle. Finally, the 2000 mode adds new graphics and tons of new enemies to *Defender's* proven gameplay formula.

Overall this game has winner written all over it. *Defender 2000* will be a welcome addition to every Jag library, and may even help sell some systems — a step Atari is in dire need of, if it hopes to survive on more than litigation proceeds in 1996.



quickly strike

a deal with your newfound alien buddy, Gaan. You'll help blow away his hostile robot inhabitants. He'll help you get safe passage off the planet. Easier said than done. Together, you'll have to solve deadly puzzles

and avoid traps, red



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to fighting through an armory to

destroy a reactor. It's Alien Odyssey -

the PC CD-ROM game with incredibly smooth

annihilation. But in a friendly sort of way.

character animation and Argonaut's exclusive 3D adventure game technology. It's total

RIENDS ENEMIES Infiltrate the enemy Comm Bunker.

Impact Racing



One of the tracks is located inexplicably in space, reminiscent of some tracks in *Stun Runner*. Weird, but cool

Impact
Racing has a
long way to
go to
compete
with Wipeout
as a racer,
but this
game could
find a niche
as a shooter



The variety of scenery is fairly diverse. The winter scene is shown here

t all started with Road Blasters. Ever since then, the driving and shooting game combination has been a reliable standard in

both arcades and on home systems. The advent of three-dimension capable next generation systems has meant a whole new group of futuristic racer/shooters coming down the pipeline.

JVC's entry is Impact Racing. The story is basically disposable — the player races around the track, blasting bad guys and trying to get to the finish line before time runs out. The game features a lot more shooting than any other racer we've seen lately and also includes a wide assortment of weapons: mines, dumb missiles, heat seekers, smart bombs, and fire walls. On each track you start with a preset number of enemies whom you must kill. Once you dispose of them, you can acquire weapon power-ups by killing even more.

The game features three circuits, City, Mountain, and, oddly enough, Space, each of which can also be played in a Mirror, Night, and Mirror-night mode. You can choose six cars, each with armor and speed combinations.

Sony's WipeOut has brought this genre into the far future on the PlayStation and remains the best

WipeOut set a new standard for racing games. Can Impact Racing keep up?

Format: PlayStation
Publisher: JVC
Developer: FunCom
Release Date: December
Origin: Ireland





only has one viewpoint, you feel very close to the road which provides a great feeling of speed. Take note of the handy radar scope in the upper right of the screen

Although the game

example as of yet. Impact Racing has a long way to go to compete with what may be the best home racer of all time, but this game could find a niche as a shooter. There are an enormous amount of enemies, power-ups, and death runs, which should be more than enough to thrill shooter fans.



fest.



It's 26 levels of car-to-car combat. Customize buffed monster-stompers with trick engines and air-grabbing jump jets.



With our unique, head-to-head 2 player game, grind a pal's ego into the asphalt. It's cruel. But there ain't no 2nd place.



Get a load of Off-World Interceptor ExtremeTM,

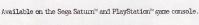
the chaotic death-capade featuring wicked 4x4s and a blood-thirsty arsenal.

Red-line across the galaxy's most intense,

32-bit texture-mapped terrain, switching on the fly between COCKDit and chase view. Careful, though. Grabbing

massive air could

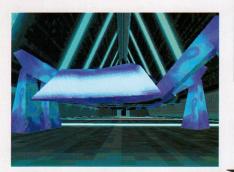
crush a kidney. Or two.







Galapagos



More than any other title ever previewed in **NEXT Generation**, the technologies pioneered in this title may significantly change the way we play games in the next several years

Format: Mac, Win 95

Publisher: Anark

Developer: Anark
Release Date: Mac (January):

Win 95 (June)

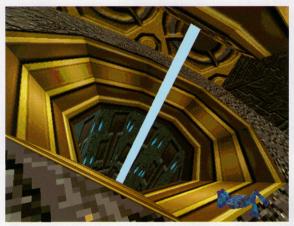
Origin: US

Mendel — named after geneticist Gregor Mendel, whose work with pea-pods revolutionized the field of genetics — is one of the first artificial organisms to be available outside academia

This isn't some stock FMV-style adventure game, and Mendel is no joystick driven pawn — he's a fully realized artificial organism



Getting Mendel across this bridge over lava is no picnic. The camera angle is tied to Mendel, not controlled by you, which adds to the challenge of the game



Avoiding laser mines is a theme in many of levels. *Galapagos* supports volume-based voice input on microphone equipped computers, so yelling "Stopi" or making another loud noise will keep Mendel's natural curiosity from lending to his doom. Teaching Mendel is more beneficial in the long-term

"bad Mendel," as well as activating certain switches and controls in the various levels. No big deal? Think again.

The controls sound simple, but this isn't some stock full-motion video-style choose-your-own-adventure game, and Mendel is no joystick driven pawn — he's a fully realized artificial organism, with the capability to learn and adapt to his environment.

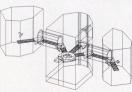
The technology that "controls" Mendel, the only inhabitant of Galapago, is based on artificial life, a relatively new field of science that attempts to model the complex behaviors found in natural (organic) systems. Artificial life can be seen to some degree as the antithesis of artificial intelligence, the technology found in most sames. (NG 11).

In AI, one starts with a desired result (playing chess, pilotting an enemy ship in a game) and then seeks to create rules to simulate that behavior — a top-down approach (the same approach is found in simulations like SimCity or Civilization). Artificial life, on the other hand, is a bottom-up approach. It starts with very basic rules and then enables complex, life-like behavior to emerge from them. In that Mendel learns, he bears some resemblance to the creatures pioneered in early A life experiments, like Stewart Wilson's "", d'eveloped at the Rowland Institute,

which learned, in its virtual world, how to

avoid obstacles and find food; or the robots developed at Massachusetts Institute of Technology's Mobile Robot Group, which display extremely complex behaviors based on simple rules. But the artificial life technology used for Mendel's "brain" is a proprietary system devised by Anark called NERM





The Leveller development system (top). A wire frame model of a world in *Galapagos* (above)



ng alphas



When he's born, Mendel may walk straight into a pool of lava, killing him, but the information has been retained he won't do it again



The futuristic graphics fit the futuristic technology that lies behind the game

(Nonstationary Entropic Reduction Mapping). NERM is self-organizing — it doesn't require prior knowledge of the system (in the case of *Galapagos*, Mendel) that it controls. As it is used, it organizes itself — it (Mendel) learns.

When he's born, Mendel is pretty stupid. He may walk straight into a pool of lava, killing him and resetting the game to the start of the level. But the information, though, has been retained - Mendel won't do it again. If you want, you can train him by sending a "bad Mendel!" command before he ever commits suicide in the lava. To get Mendel past the puzzles in the game, you must manipulate objects in the environment; while you could just let him figure things out for himself, teaching him will enable you to reach more areas in the game, and is a lot more fun. Of course, you can also teach him badly -



You can alter various elements of Mendel's world with a simple point and click interface, which makes game control extremely elegant

give him positive re-enforcement in situations that lead to his death and he'll start to ignore you — making the solution of the game impossible.

The worlds of Galapagos, created with a proprietary authoring tool called Leveller, are trackless, true 3D environments, featuring six degrees of freedom. And while a lot of the puzzles are obvious, the challenge is to get Mendel to figure them out, especially

since the camera view is tethered to him, not controlled by you.

The A life techniques demonstrated in Mendel foretell entirely new gameplay paradigms. "A life" will enable developers to create very complex worlds based not on lines of code designed to rigidly anticipate every possible action of a player, but by creating relatively simple rules that enable complex behavior of N PCs and characters to emerge on their own.

Imagine a platformer where the enemies learn that getting hit on the head by a hedgehog or a plumber killed them and began making hats out of rings or coins to protect themselves — behavior not programmed but that has emerged on its own — and you start to get the idea. Galapagos is the first of what truly may be the next generation of gameplay.







NERM learns: from top to bottom NERM converges on a solution map between inputs and outputs. Neural Nets can't produce these complex mappings



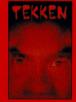
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The one with enough phenomenal reviews to take down an entire forest. The one with super smooth texture-mapped polygons performing countless motion captured martial arts moves at



of view, whether you're kicking someone's butt or getting yours kicked. The one with some of the most impressive environments you've ever seen, in arcades or out. The one that's so tough,

60 frames per second. The one with four points

it even knocks out the arcade version. Tekken™.

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Soul Edge



With nunchakus, axes, and lots of steel, Soul Edge delivers some thunderous blows

Н

aving made the significant leap to 3D polygonal characters and now 3D movement (seen primarily in Battle Arena

Toshinden), the logical next question for fighting games is: What's next? According to Namco, the incorporation of 3D movement, polygonal characters, stunning graphics, awe-inspiring special moves, and a unique and detailed combat system is the answer.

Soul Edge may not make many new technological advances, but it does combine the best ingredients from several fighting games to make possibly the most complete fighting game to date. With fast, accurate play like Tekken, full 3D movement like Toshinden, and complex strategies like Virtua Fighter 2, Soul Edge promises to set some new standards.

The early videotape **NEXT** Characters. Two Japanese warriors with Samural swords, a knight from Germany, two female fighters with swords (and scantily clad outfits, of course), a bald, nunchaku-wielding Chinese warrior, an American barbarian, and an Italian with two three-bladed swords. Each character is more detailed than *Tekken 2*, and the backgrounds (the one flaw in the first *Tekken*) are deep and alive with motion.

Soul Edge utilizes the system 11 board (used in Tekken and Tekken 2),

Using 3D movement, exotic characters, and *Tekken*-like gameplay, Namco's new fighter may just be a cut above the rest

Format: Arcade
Publisher: Namco
Developer: Namco

Release Date: **December** Origin: **Japan**



but Namco has figured out how to push even more out of the PlayStation-compatible board. The light sourcing and smooth movement make the

backgrounds the most detailed **NEXT Generation** has ever seen, and the weapon-to-weapon combat makes for some real innovation. *Soul Edge* uses sword clashes, thrust blocks, and an unusual plethora of special moves to bring out some of the most in-depth gameplay available.

But because Soul Edge runs on the System 11 board, it is sure to be on the PlayStation by March '96, and until then, it's likely to steal some of the arcade thunder away from Sega AM2's most recent and mediocre beat-em-up, Fighting Vipers.



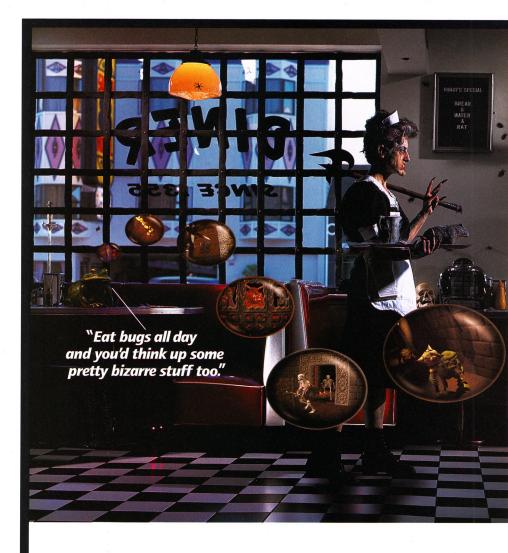
The use of sword clashes and steel-to-steel combat is a first for the 3D brawler, promising some interesting fights







reminiscent of Battle
Arena Toshinden and are
beautiful to watch













Here's a switch. An RPG where
you play the monsters (plenty of 'em).
The fair-haired, blue-eyed heroes
try to steal your treasure. You manage
the dungeon (first or third person
point of view) and hunt them down.
Then maul them. It's even 8-player
networkable. Happy feasting.











"It's efforts like these that will establish a new 32 bit gaming paradigm."

Next Generation

ELY

















Johnny

US Gold has proved it can use a Silicon Graphics machine as well as anyone on the block, but can this hard rocking platformer title deliver more than pretty pictures?

Format: Saturn, Win 95
PlayStation
Publisher: US Gold
Developer: Arc

Release Date: **January** Origin: **UK**

What is most

remarkable

gameplay is

its speed —

fast game

this is a verv

about the

Bazookatone



Although these early screens are fairly blurry, you can already see the excellent quality of both the characters and backgrounds. The 16.8 million color palette of the PlayStation is exploited to the maximum in this game

dise mu Ani Ma a tr inte aftr tota pla any Suy

t's hard to take a game pr called Johnny fa Bazookatone seriously, and that's just the way US Gold wants it. This fully rendered so

side-scrolling action game puts you in the role of Johnny, the most popular rock star of the 21st century — bigger than the Beatles, bigger than Elvis, even bigger than Green Day.

The year is 2050 and EI Diablo, that's right, the devil himself, has stolen your prized guitar, Anita. Trouble is, old Lucifer can't play the damn thing. With no soul for rock 'n' roll, he decides if he can't play music, no one else can either, and proceeds to capture some of the best musicians of all time. It's up



The fully rendered platformer comes to the PlayStation with Bazookatone's amazing speed and a few new moves

the player to rescue them (most of whom you'll recognize as thinly disguised figures from the real world of music) and complete the quest to wrest Anita from the devil's evil clutches.

The graphics, rendered a lá Rav Man, fit the plot perfectly - whimsical, a touch of MTV to keep things interesting, and a style reminiscent of an after-school cartoon. The sound track is total techno rock 'n' roll. While the playing style will be instantly familiar to anyone who's ever owned a Genesis or Super NES, US Gold has added a few new elements. Johnny has a few moves gamers haven't seen before, like 360° rotation jumps and hover jumps, and the environment is 3D with excellent background art and parallax scrolling. What is most remarkable about the gameplay though is its speed - this is a very fast game.

Johnny Bazookatone isn't a groudbreaking game like Wipeout or Destruction Derby — but then it doesn't pretend to be. It's just trying to be a fun, fast-paced platformer. Though still at an early stage of development, this title could be a step beyond what was previously done in graphics and sound on 16-bit systems.







Character sketches of Johnny (top) and two of his evil enemies

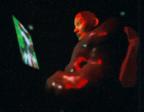






The underwater levels are a step above the 16-bit level; here, Johnny stalks the deep

Jron Ama



Directed by Minoru KUSAKABE

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Super Cross 3D



The SGI rendered riders and motorcycles show off the Jaguar's pallet and pixel drawing ability well. Even the crowd looks good. The small tracks give a great feeling of speed and show the need for good control of your bike

tari is aiming for a high degree of realism in its latest motorcycle racer. Super Cross 3D is the sport of racing high-powered dirt bikes on

tight indoor tracks, the kind of thing you see on late night ESPN 2 broadcasts.

This title marks a technological advance for Atari — this is the one of the first times SGI-rendering has been used in a Jaguar game. All the riders were created using Advanced Kinematics and Wavefront modeling. And it shows.

The riders look

The 30 tracks are texture-mapped for added realism. The way your bike takes jumps depends on your speed and the particular shocks you've chosen

much cleaner and sharper than they did in games like Super Burn Out. Track environments also make use of 3D, texture—mapped models.

There are 14 different tracks, each of which has different attributes, ranging from the ratio of curves to straights to the number of jumps to

This new racing title brings motorcycle games off the road, into the stadium, and adds to the Jaguar's much-needed library

Format: Jaguar
Publisher: Atari
Developer: Tiertex
Release Date: December
Origin: UK



You can do tricks in the air, but only for style — successfully performing them gives no advantage in the race itself

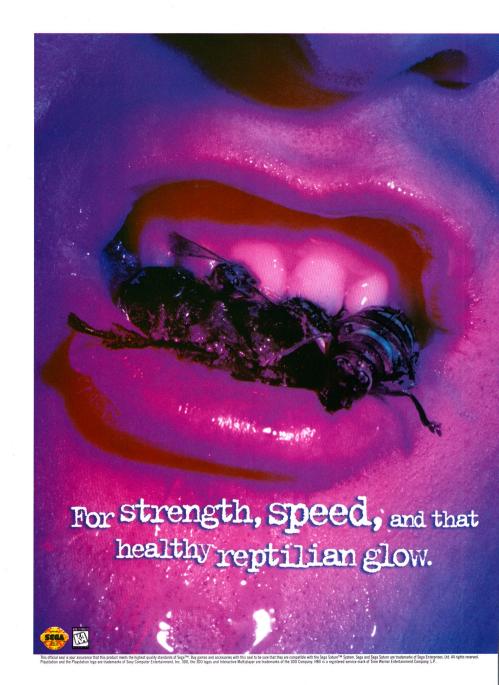
the hardness of the track, and each requires different skills to master. Before each race you can change the shocks, tires, and gear sets on your bike to find the perfect combination for each track's conditions. You'll need to find the optimum bike configuration to really master each track, which adds a strategic element to the game.

All the standard racing game features are here — choosing your team, colors, campaign modes, and others. Real super cross requires a high degree of skill and you'll find that the Jaquar version is the same — it requires split-second timing and a healthy appetite for skids to have any chance.

Hence, it leans much closer to a simulation than a flat-out game — a feeling the relatively low frame-rate only enhances. However, the unique quality of this title makes it well worth a look.

.......

This title marks a technological advance for Atari: it's one of the first times SGI-rendering has been used for the Jaguar



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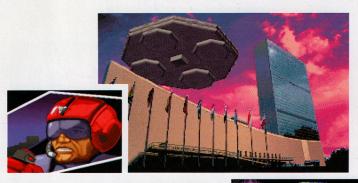






X-Com

The world awaits the results as one of the best PC strategy games ever created makes its debut on a new platform



Format: PlayStation

Publisher: Microprose

Developer: Microprose

Release Date: December

Origin: UK

ow that new console systems have comparable power in both graphics and processing speed to home computers, many

PC game companies are preparing to rerelease past titles on next generation machines. Microprose, one of the oldest names in strategy gaming, is no exception and is currently putting the finishing touches on a PlayStation version of one of its biggest hits, X-COM: UFO Defense.

Based in part on Gerry Anderson's popular "UFO" TV series, X-COM puts players in the unenviable position of trying to defend the Earth from alien



From the central global screen you can keep an eye on alien activity anywhere on the planet. Once you've built a strike force, you can respo to any threat at a moment's notice (top, above). The panel on the righthand side of the screen provides choices from funding to timing (above)



These aliens may look harmless, but they will pose quite a problem in ear missions. Their friends are worse....And it's your job to eliminate them

invaders more organized and better armed than anything Earth can muster. Given a chance to prove yourself to the UN security council, you must lead your team on successful anti-alien missions around the globe, build new bases, hire scientists to research captured pieces of equipment, hire engineers to build new technologies, and keep a well-armed team of soldiers ready to take on the strange invaders at a moment's notice.

As if all of this wasn't enough, a sloppily handled budget and too many alien attacks will lead cooperative

ng alphas



The team's plane is the starting point for most of your missions. Don't lose it because it's expensive to rebuy and you're helpless without it

X-COM is a
mix of a
SimCity-style
resource
management
game and a
tactical
simulator in

the tradition

of Breach

countries to lose faith in the project and withdraw funding. Lose enough funding, and the UN will decide to take a chance on diplomacy with the newcomers, a path leading to the eventual extermination of the human race.

X-COM is a mix of a SimCitystyle resource management game and a
tactical simulator in the tradition of
Breach. Players start out with the
means to build a base anywhere on the
globe and then begin the arduous task
of hiring the appropriate personnel,
equipping the base with everything it
needs to withstand a full-scale invasion.
Once a team has been assembled and an
appropriate transport vehicle
purchased, the players are ready to
jump into a turn-based combat system
against the ugliest and most powerful
critters the universe can offer.

After each victory, soldiers will want to gather the aliens' weaponry — and their bodies — to learn how they work, and to find out from where they came. As your scientists accumulate the clues, the final plot of the game becomes apparent, and players can begin work to end the menace forever.

While no major changes to X-COM's graphics were made because of time constraints, Microprose UK's



The turn-based combat system of X-COM is both entertaining to watch and easy to follow. Also, the point-and-click icons are very intuitive (above)

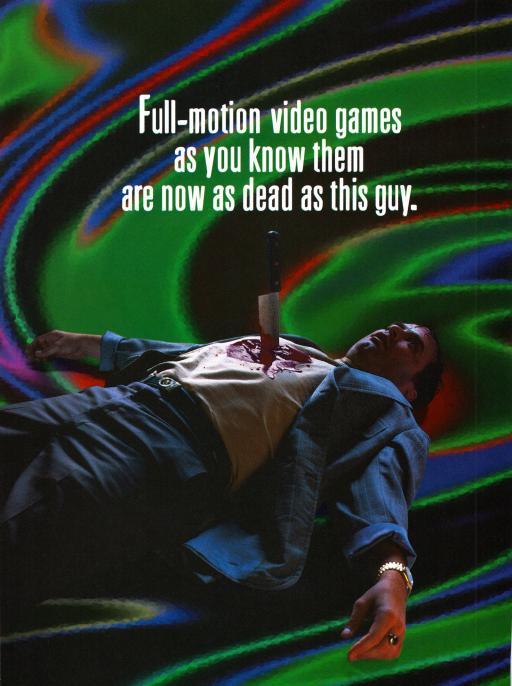
development team added 55 minutes worth of CD-quality music and eight minutes worth of 16-bit music to the game, a far cry from the 8-bit sound of the PC original.

If the popularity in its first market is any signal, then X-COM is almost guaranteed success on next generation consoles. The eyes of just about every major software house will follow the fortunes of this PC port, and should it succeed, expect a tsunami of PC conversions to follow.



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around and don't interact, someone's going to turn up dead. Which is

bad, since you're supposed to be collecting clues, not corpses.



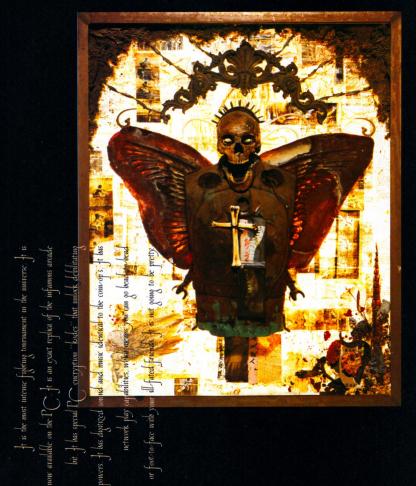






Psychic Detective

DO UNTO others as you would HAVE tHEM DO UNTO YOU. IN THIS CASE, CIP out their spine and internal organs.





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Super Mario RPG

Nintendo has been working in secret since January on the first true *Mario* game for five years — an RPG destined for the Super NES

Publisher: Nintendo
Developer: SquareSoft
Release Date: January 1996
Origin: Japan



he last few months have seen an explosion in quality software being announced and released for the Super NES. Most of it

originates (not always directly) from Nintendo itself, as it attempts to keep the 16-bit console alive in the face of

increasing next generation competition. In the West, this has meant surefire winners like Killer Instinct and a follow-up to last year's hit, Donkey Kong Country. In Japan, it has meant successes like Yoshi's Island. But rumors of the next true Mario game (and aside from Yoshi's Island, the last title coming almost five years ago) have so far been reserved for an Ultra Mario 64-bit dream. Now, in typical Nintendo style, the Kyoto giant has released details of a project that it has managed to keep secret since its

inception last January. A *Mario* game that seems like the ultimate genre combination and the ultimate software partnership, the SquareSoft/Nintendo *Super Mario RPG*.



As you might expect, the game makes use of Rare's Super NES-saving ACM (advanced computer modeling) techniques, but marries them to an isometric perspective akin to that of Software Creations' Equinox (and a game by a pre-Rare Ultimate Play The Game — Knight Lore).

Rather than taking Square's usual turn-based approach to roleplaying games, Super Mario RPG is an action affair with familiar Mario game mechanics. Hitting your head on the bottom of treasure chests reveals coins or hit-point increasing mushrooms. And although Square has yet to release details of the engine, the traditional Mario method of dispatching enemies — by jumping on their heads — is known to be included somewhere.

The hardest task in creating an RPG around Shigeru Miyamoto's most famous creation is surely the storyline itself. It comes as no surprise that the company has kept strictly to the Mario mythos. Princess Peach (or Daisy as she was renamed in the West) has been kidnapped, presumably by Koopa (Bowser in the West) and the hapless plumber must rescue her. The story



Reflecting the younger nature of Mario players, SquareSoft is promising that the puzzle aspect of the game will be fairly forgiving. Pixel-perfect jumps won't be required to get around the huge variety of landscapes which are offered

ng alphas









Super Mario RPG's isometric heritage becomes more apparent when inside one of the many buildings that litter the landscape. Elsewhere there is plenty of room to explore

introduces a number of new characters to flesh out the quest, offering the usual "side-stories" prevalent in Japanese RPGs. Apart from that, this is strictly a "platform game" *Mario* tale.

The game gets around the storage problem caused by the huge amount of ACM graphics, combined with a typically large RPG scenario, by adding Nintendo's SA-1 compression chip to the 32-Mbit cartridge. This could mean that as much as 16 MBs of info will be on hand for the game to draw on. Whether this makes its cost prohibitive when it comes to a US version remains to be seen. Although a date has yet to be set,



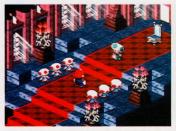
No *Mario* game would be complete without such recognizable elements as coin collecting and plenty of jumping up and down

the usual Square development time of a year means that an early new year release in Japan isn't out of the question.

In many ways this game is a turning point in Square's development. Currently the hottest software company in Japan, it has only recently started investing in SGI hardware that enables the creation of ACM games. And Super Mario RPG is the first direct result of that investment. Square's other Super NES releases

Gruper's Other Super NES releases for 1995 (Seiken Densetsu 3, Romancing SaGa 3 and Front Mission—Gun Hazard) may rely on more traditional methods, but its recent Onyx workstation demo of Final Fantasy at Sigaraph '95, and the heavy rumor that Final Fantasy VII will appear on the Ultra 64 in Japan soon after its launch, shows that Square is committed only to Nintendo's Cap that other platforms can only dream of.







The graphical detail that Square has lavished on *Super Mario RPG* reflects the fact that this is the company's first release to use ACM. Typical Square touches like shafts of light beaming through windows are found everywhere

A Mario game that seems like the ultimate genre combination and the ultimate software partnership



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Actual screens may vary. Made in U. S. A.





International conflicts should

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- Electronic Gaming Monthly

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Dark Savior



After the superb *Landstalker* for the Genesis, top developer Climax has set its sights on the Sega Saturn







Polygon-generated effects ensure a moody and atmospheric feel to the island dungeons

Format: Saturn
Publisher: Sega
Developer: Climax
Release Date: December
(Japan)

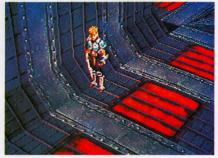
Origin: Japan

andstalker was released

two years ago for the Genesis, and with its isometric perspective and engaging graphics, it quickly became to Sega's 16-bit machine what Zeida was to the Super NES. Since then, its developer, Japanese team Climax, has been working on a similar, but unrelated, concept for the Saturn. And it looks like it could turn out to be one of the best action role-playing games to date.

Dark Savior uses a completely polygon-rendered world for its visuals, and throws in a convincing use of perspective to give a truly unusual look. For once, the story and setting have been chosen to give some atmosphere to the proceedings: the game is set on an island inside a prison for the criminally insane. The game's hero is a bounty hunter who makes his living sending villains to the prison — he has just three days to track down a monster that has infiltrated the prison (a place where, naturally, he doesn't have many friends).

As well as moody graphics, Dark Savior also promises a multitude of scenarios depending on which characters you meet. The Japanese version will be released first, but an English version will follow. Expect to see a more in-depth report soon.



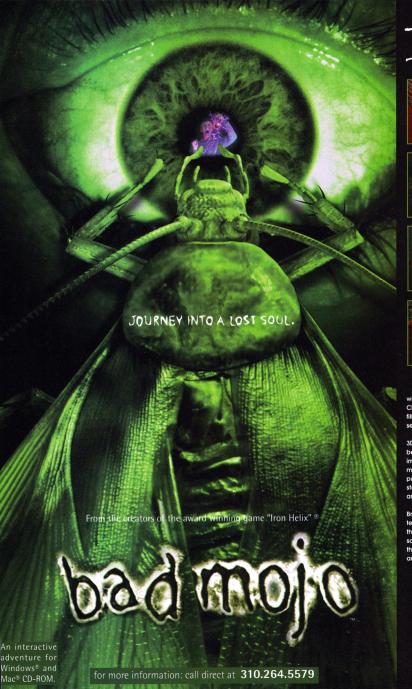


The game is set inside a prison for the criminally insane. You play a bounty hunter out to catch the dangerous monster inside



Alone in the prison, cut off from the world outside and surrounded by crazed inmates — most of whom were put there by you — this creature is not what you want to see at this moment

Dark Savior looks like it could turnout to be one of the best action RPGs to date













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The horror mounts when you realize you're trapped in Kyan and destined to suffer the same fate as those you've seen skittering into the shadows on six legs.

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Quake



Replacing chunky bit-maps for pure polygon-based action, Id software's *Quake* is set to replace *Doom* as the 3D game by which all others are judged

Format: PC CD-ROM
Publisher: GT Interactive
Developer: Id Software
Release Date: TBA
Origin: US



Having textured polygons and no bit-maps means realistic lighting effects can be used





Your player's ability to look up (along the Z axis) at this tower is easy thanks to advances with Id's new 3D engine

S

itting in the executive suite in GT's booth at ECTS (European Computer Trade Show) and talking to Jay Wilbur and Mike

Wilson, NEXT Generation reporters are being taught gameplay by Id software. Jay Wilbur sums it up. "The design philosophy is fly by the seat of our pants and come up with the greatest game possible. We don't have a bible. We just put it in. Is it cool? Yeah. Does it Suck? We lose it."

It's the simplest of aims

but somehow Id seems to be able to realize it where most other companies cannot. Id's game catalog speaks for itself. Wolfenstein 3-D was released in June 1992 and immediately became a classic. Doom followed in December 1993 and no explanation is needed here. In the two years since, nobody has been able to successfully copy its magical gameplay formula. Pretenders like Descent and Terminal Velocity come and go but Doom is here to stay. It seems as if the only way Doom will ever go to the bone yard is when the sequel, Quake, appears. And for the first time the Id guys have a demo up and running.

Quake initially looks similar to Doom. It's a 3D-maze game, it runs without a hiccup, and there is a hefty complement of killing involved. Looking closer, it quickly becomes apparent that Id has added a lot more to its new baby.

......

The only way Doom will go to the bone yard is when the sequel, Quake, makes its appearance

ng alphas







A dragon flies overhead (main picture). The fantastic looking parallax skies which first appeared in ${\it Doom}$ will not be dismissed in ${\it Quake}$

The first development was to upgrade the gameworld from bit-maps to polygons. Bit-maps are quicker to manipulate but scaling them (reducing and enlarging a single picture) produces the distracting pixelation effects that have dogged so many games.

The polygon world makes it possible to have a true 3D environment. Looking up and down is now possible and is just as quick as glancing left and right. Also because each polygon can be shaded and lit individually, a realistic lighting model can be implemented. Shadows are properly cast by lights rather than being faked as has been the case up until now.

Action games demand a high frame rate and Id realizes the game won't work unless it's moving quickly. Quake will run in a variety of resolutions to ensure that every computer is catered to. The basic V6A 320x200 is supplemented by various options stretching up to 320x400 pixels. Id feels that the speed of the game is more important than high-fidelity graphics. And as the natural temptation is to play at the highest resolutions it's a good decision not to include a 640x480 in favor of playability.



The spooky corridors enhance atmosphere

Until the release of Quake, gamers will have to be content with Raven Software's Hexen: Beyond Heretic, the sequel to Heretic. The biggest advance since Heretic is the inclusion of Raven's new scripting language. This ensures that every game you play will be different. Every level contains traps, secrets, and often you'll not know what's behind a door before you open it. This touch is certain to make it appeal to people, particularly those multiplayer gamers who are itching for a bit of variety in their dungeons.

The combination of Hexen later this year and Quake "when it's ready" should ensure Id remains at the top of the technical and gameplay ladder. And with the inevitable Quake ports to every known platform every gamer will benefit from the Texans' talents.

Doom was linear. Kill, kill, key, kill, kill... from one level to the next





Standing at a corner (top). Your player looks up toward the eerily lit openair ceiling (bottom)

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Hey, killer games aren't rare they're served well done (like Earthworm Jim 2)!





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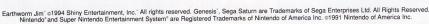












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Vertical loops...quick turns...speed bursts...air brakes. Flying by the seat of your pants in a one-on-one doglight to the death can make a pilot kind of queasy. It doesn't matter that you're armed to the teeth with gun cannons, heat seeking missiles and guided missiles. You still have to keep the other guy in your sights using whatever moves you've got. Did you remember to save that dog to bag from lunch?







PC CD-ROM

Not Rated







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don't just sit there waiting to

burl. Slide into the store, and give it a crack.



Nightmare

Format: Genesis
Publisher: Sega
Developer: FunCom
Release Date: December

Origin: Norway

Circus



This clown is huge — and the graphic variety in the game is stunning, especially since it is only eight megabits

"Too often, game designs end up being little more than marketing sell sheets," says Max Taylor, senior producer at Sega

W

ith the burning pile of cheesy, licensed 16-bit side-scrollers slowly facing their demise, Max Taylor, senior producer at Sega, was

determined not to let that happen to Nightmare Circus. "Too often game designs end up being little more than marketing sell sheets," says Taylor. The design document Ricardo Pinto (Elite's

coder for the Spectrum) and he wrote is more than 1,600 pages long. Nothing was left to chance, he claims, and it shows in the game. "Thanks to our rigorous pre-planning we've been able to put in a ton of features never seen before."

At first glance, Nightmare Circus seems to be a run of the mill platform game. Closer inspection reveals, however, a game that has little to do with the side-scrolling clones presently littering the market. To start with, the main While Nightmare Circus may be one of the best designed Genesis games of all time, it already may have missed its window of opportunity for great success

character has as many moves as you would find in a fighting game — more than 70 fighting moves and 180-plus total animation sequences. Second, the gameplay is extremely deep. Across the seven levels in the game, each with two to three sub-levels, you'll find almost none of the repetition common in the average platformer.

The attention to detail is phenomenal — for instance, you cause more damage if you hit an enemy at the full extension of your swing than on a short shot. And levels are also extremely well designed. One of the best is a centrifuge — trying to walk across it kills you, but if you wait until the room starts spinning fast enough to pin you to the walls, you can then climb and move across them.

Nightmare Circus' back story involves the Jester, a shady operator of



The Centrifuge level shows a realistic physical model. When the room spins fast enough, you stick to the walls



The game features a full 2D fighter mode in which you can choose any levels you have previously cleared as backdrops

ng alphas

a small-time circus and freak show in the 1940s. In an insurance fraud bid, the Jester torches the entire circus in one massive conflagration in the Arizona desert killing not only all the performers, but most of the audience members, too. Players take the role of Raven, grandson of one of the few survivors of the circus holocaust, who, when investigating the site of the disaster one day, is shocked by the apparition of the circus, conjured up from the beyond by the massive psi-energy of the Jester.

If the side-scrolling

aspects were the game's only elements, then it would be excellent, but there's more. In addition to a two-player cooperative mode, there is a full 2D fighter here, enabling you to go head-to-head with a friend or against the computer, playing as Raven, or even cooler, as any of the enemies in the game, each of whom has his own special attacks. Also impressive is the ability to have Player Two be the Jester — conjuring and controlling all the enemies in the game.

Most intriguing of all, though, is the special "Tweak" mode. Originally placed in the game to allow beta testers to tweak gameplay elements for maximum enjoyment, the game editor





The animation in the various levels is stunning for the Genesis. Raven, above, seeks vengeance on the shady circus clown









The Tweak mode may not be for the light-hearted, but it will enable you to alter every aspect of gameplay — gravity, the speed of the roller coasters, and more — that the programmers' could alter. Trés cool

enables you to alter almost every facet of the game — from the minimum distance at which enemies will appear, to the amount of gravity, the speed of roller coasters, and more. Just about everything, with the exception of the graphics, can be changed.

Although you can enter each of the first four levels in any order, you'll need to solve all four in one game to advance to later levels. And while solving any of the first three levels is equally difficult, solving two in a row becomes more than twice as difficult as solving each level individually in a separate session. Solving three is more difficult still, and well ... let's just say that there's a lot of play time here for your buck. This will definitely be a "gamer's game," and Taylor, admits that it will be difficult to solve — you'll have only one life and no continues.

What's sad is that a game with this much potential is being released at the end of the Genesis' life cycle, where it will be at best a minor hit, when, if it had been released two years ago, it could've been Sega's answer to Nintendo's Donkey Kong Country.

.....

Nightmare
Circus'
back story
involves
the Jester,
a shady
operator of a
small-time
circus and
freak show
in the 1940s



BEAST

Battle Beast sets the standard for game play and realism on the PC.

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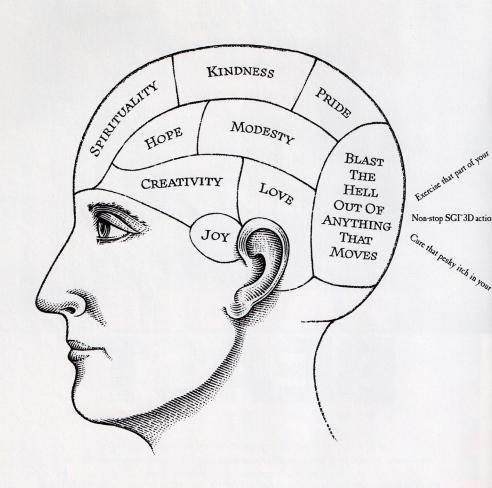
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Question: What are Mortal Kombat, Street Fighter and Primal Rage? Answer: Redundant!

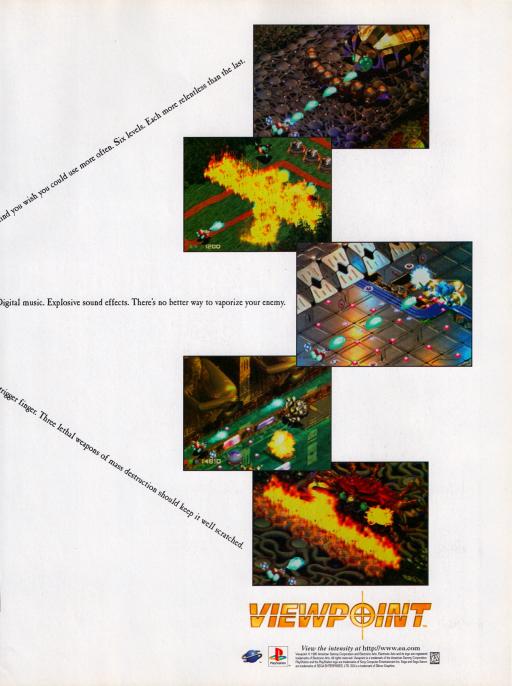
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Game Over!

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This is the new Hellfire rocket. The name speaks for itself.



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Time Crisis

Format: Arcade

Publisher: Namco
Developer: Namco

Release Date: December

Origin: Japan

Taking aim at Sega's Virtua Cop 2, Namco steps ahead of the competition with the single best innovation in light-gun games ever





The variety of levels has you going through all kinds of different areas, each one with its own unique features

L

ight-gun games have essentially been the same ever since *Lethal Enforcers* made the arcades in 1992. The

only advancement came with graphics, whether it's the full-motion video Mad Dog McCree or polygonal Virtua Cop. But no matter how pretty the games were, they never involved any more than taking aim and pulling the triquer.

With Time Crisis, Namco is prepared to bring the ultimate cops and robbers game to the arcade using its system 22 board (seen in Air Combat 22, NG 8), displaying graphics on par with Sega's recent Virtua Cop 2 (reviewed page 209). but what elevates this light-gun game above the pack is the single largest advancement in any genre since Virtua Fighter redefined fighting games. Time Crisis runs on a track, but a unique floor pedal enables you to duck behind tables, to hide behind walls, and permits forward movement. When the pedal is depressed, you move forward, but when moving down a hallway where five guys are shooting into your face, you can let up on the pedal to duck behind a wall and watch the bullets fly by; when the barrage ends, press back down on the pedal to turn the corner and start blasting. At





Shoot this guy in the leg and he tries to limp away. Unless you shoot him in the back, he'll be waiting around the next corner, and he's very quick



When you walk down the hall, you see this barrage of bad guys; you can stand your ground and start shooting (above), or you can let up on the pedal. duck behind this wall. and watch the bullets go by (below)

other times letting go of the pedal enables the player to hide behind a table, where you're able to see the enemy's feet on the other side so you can pop up and fire away. A point system keeps score of your time and damage taken. Reloading is as easy as letting up on the foot pedal.

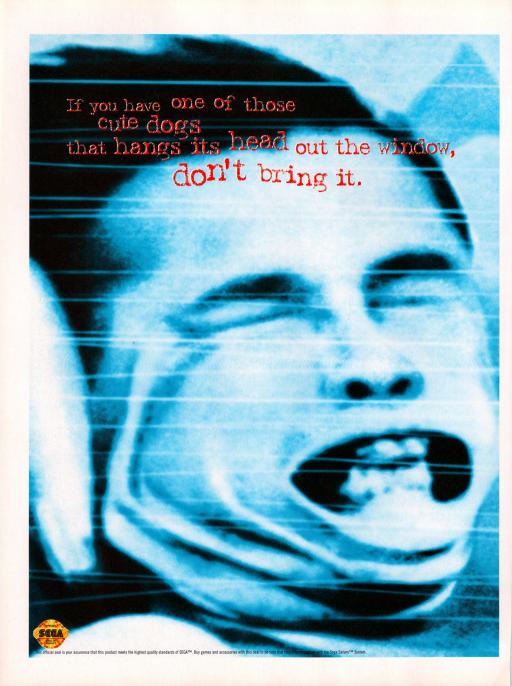
If Namco's technology merely permitted the player's ability to duck and dodge, *Time Crisis* would be a groundbreaking title, but it's much more than that. Enemies are more varied than any other light-gun game; the scenery, based around a somewhat medieval European setting, is stunning; and each level delivers a new challenge.

Already close to completion, *Time Crisis* is set to unseat *Virtua Cop 2* in the arcades and create a entirely new genre of light-gun games.





Then when the coast is clear, press back down on the foot pedal and start laying into them





Saddle up. 'Cause at dawn you ride the death pony. And it's gonna be pure neck-snapping, retina-tearing speed! You see, Solar Eclipse^M boasts third generation 3D technology



Pick from a shiny collection of do-it-yourself death tools. E-Z High Explosive Plasma Guns, convenient Thermal Tracking Missiles, handy Pulse Laser Cannons. (Tool belt not included.)



Choose cockpit or chase plane view while screaming thru 3D texture-mapped worlds. Jagged asteroid fields, fiery planet surfaces, lava filled caverns, and other sunny destinations.



Working around the clock, scientists in our speed lab achieved hyper-realistic Full Motion Graphics. Our secret? Ass-kicking proprietary engine parallel processing with Ed's '72 Pinto.

for the highest frame rate ever. That means

tent-pitching Velocity for our latest space

combat n' carnage convention. But hey, it's more

than some cosmic Speed trip. Your mission's

to battle a computer gone HAL—with all the

high-tech weaponry your top gun Wet dream

can handle. And where are you dancin'

this metallic lambada? On the new

Sega Saturn, of course. Oh yeah, you'll be

smokin' mister. But don't bother cracking a

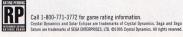
window. It's 32-bits of Solar

windburn out there.

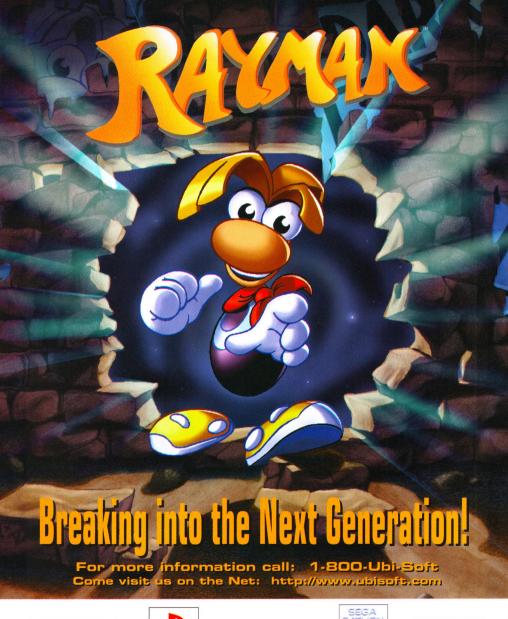


Meet Claudia Christian as the tough Major Kelt—She's nursing an intergalactic grudge against you the size of Uranus. 40 minutes of Full Motion Video let her hone her ball-busting ways.



















Toshinden 2

Format: PlayStation

Publisher: Takara

Developer: **Takara** Release Date: **TBA**

Origin: Japan

Battle Arena Toshinden was one of the first games to put PlayStation on the map. The sequel intends to reinforce that position





Toshinden 2 continues the three-dimensional beat-em-up genre's love of rotating and diving camera angles





Gouraud shading is complete in *Toshinden 2*. Developer Takara is even considering special moves based upon the position of the light

A

long with Ridge Racer, Battle Arena Toshinden was the game that first put the PlayStation on the map. The inevitable

sequel, Toshinden 2, picks up from the ending of the original, and sets the player in a new fightling tournament where a new boss character resides. Gaia, the end-of-game adversary of the original now appears as a playable character.

The eight original characters all appear in the follow-up title, and there are plans for the addition of at least one other female character. Takara has yet to enhance each of the old character's abilities — the game is currently only 20% complete, but each is kitted out in a new outfit, giving them a look more akin to those on display in Namco's smash hit, Tekken.

Toshinden 2 also nods toward
Namco with its lightling routines — a
fixed-light source will appear on certain
areas to give fighters a more realistic 3D
feel. However, where Tekken 2 had to
abandon Gouraud shading for its
complex lightling routines, Toshinden 2
makes no such sacrifice. Takara has even
hinted at introducing a selection of
special attacks specifically relevant to
the positioning of natural light on
certain levels.

Two formats of the game will appear. Early reports have suggested that the coin-op outshines the PlayStation equivalent considerably.

Where
Tekken 2 had
to abandon
Gouraud
shading for
its complex
lighting
routines,
Toshinden 2
makes no
such sacrifice



Legend Of Thor

Format: Saturn Publisher: Sega

Developer: Ancient Release Date: TBA

Origin: Japan

Iready looking like a welcome addition to the Saturn's software library, this new action role-playing game from Japanese developer

Ancient is based on Story Of Thor, a Genesis game released last year in Japan (released as Beyond Oasis in the US).

As before, the combat system is simplistic and intuitive, but there are also puzzle elements and degrees of interaction with other characters. One unique feature of the original game was the ability to jump your way out of trouble and to even use jumping as a mode of attack. In the Saturn version, it's possible for your character to jump even higher - often enabling you to escape even when surrounded.

includes the talented and well-known Japanese composer Yuzo Koshiro, who is currently preparing an orchestral and context-responsive soundtrack. And keeping it in the family, Yuzo's sister,

having already produced ingame visuals for 16-bit games including Actraiser

Legend Of Thor should prove to be a welcome respite from the plethora of three-dimensional action games on their way to Saturn. With superlative graphics, an accomplished Koshiro soundtrack, and solid RPG elements, this title should do the Saturn's credibility no harm at all.

The Saturn is set to have a glut of 3D action adventures - but you can bet they won't all look as good as this



Legend of Thor has plenty of hack and slash

to keep the fans of action RPGs happy

Definitely for the Japan RPG market, *Thor* has a more imaginative approach

But it's the graphics that are the most obvious improvement over Thor's earlier, 16-bit, incarnation, Rich, detailed backgrounds combine with huge sprites and screen scaling to make this a visually outstanding game.

The development team, Ancient, Ayano, is in charge of the graphics,

and Bare Knuckle 2.



Legend Of

welcome

Thor should

prove to be a

respite from

the plethora

of 3D action

their way to

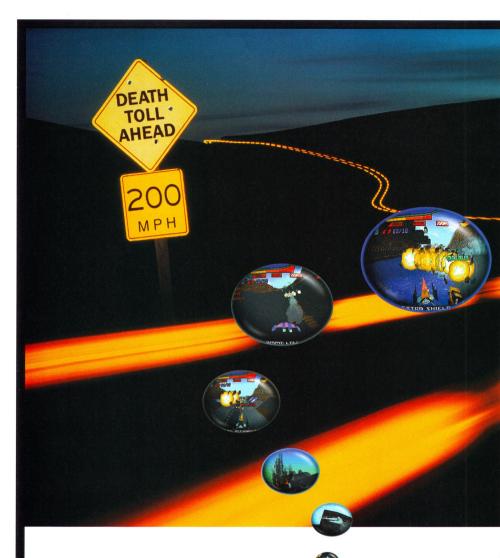
the Saturn

games on



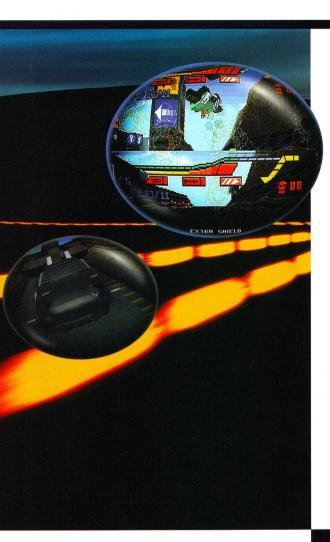
Large, detailed sprites combine with attractively drawn, colorful backgrounds to create a pleasant atmosphere





"If your opponent doesn't kill you, the road will."







It's the asphalt-melting, head-to-head

(split screen) combat race game with mini guns.

Missile launchers. And a track that morphs in real

time to create crevices, barriers, and curves.

Just hop in your hovercraft (6 to choose from)

and hit the road (9 to choose from).

But beware. It'll hit back.



"TO SURVIVE IN THE ZONE YOU BETTER



BE REAL 6000

OR REAL LUCKY."





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Zero Divide PlayStation Black Fire Saturn Blade Force 3D0 Highlander Jaguar Kolibri 32X Command & Conquer PC Full Throttle Macintosh Fighting Vipers, Indy 500, Maryel Superheroes, Virtua Cop 2 Arcade



Every new game honestly reviewed and rated

176 **PlayStation** 177 Saturn 181 300 186 Jaguar Sega 32X 188 PC 188 192 Macintosh 195 Genesis 198 Super NES 201 Arcade 206 Virtual Boy 206 Sega CD 206 Neo-Geo

on **NEXT Generation** hard hitting opinions on the latest games for home systems and arcades. This report from AMOA, with 16 arcade reviews - our largest arcade section ever. Below is

Revolutionary flawlessly executed; a new high-water mark

*** Excellent

A high-quality and inventive new game. Either a step or a successful attempt at creating a new one.

*** Good

A solid and competitive example of an established game style

* * Average Perhaps competent: certainly uninspired.

Crucially flawed in design or application.

PlayStation

Defcon 5 Publisher: Data East Developer: Millenium Interactive

Following in the line of other space action and explorationadventures like Alien vs. Predator, Space Hulk, and Robotica, Defcon 5 stands a good chance of redefining the state-of-the-art in this new sub-genre - it's like, well you know, Doom, but with more exploration and strategy, and less fast-paced shooting.

There aren't any serious puzzles, but plot development is important enough to the game, we don't want to give anything away. Let's just say you're guarding a station against a gradual invasion and we'll leave the rest for you to discover.

What really elevates this above its "like Doom, but" brethren are the little things, none of which, on their own, are that remarkable, but which, taken together, add up to serious fun. Things like the way killing enemies decreases the air quality of the room you're currently in, which can render it inhabitable (and the game unsolvable), or the way the invasion evolves, with Berzerkers slowly filtering up from the lower levels, adding a serious level of suspense.

Overall, the well-balanced ratio of strategy to action, combined with exceptional attention to detail and long gameplay time, mark this as a definite step forward. Rating: ***

Mortal Kombat 3 Publisher: Williams Developer: Williams

It's no secret that Mortal Kombat 3 is the reason many gamers bought PlayStations. And with Sony's six-month exclusive to publish MK3 over all other 32-bit platforms, more sales are sure to come. But, is this the reason to buy a next generation machine?

Sure, it's always a thrill to bring the arcade experience home in such detail, and MK3 for the PlayStation is absolutely arcadeperfect, but it's still a traditional 2D fighter. Of course, it's not a crime to make a 2D fighter for a



There are definitely some hot new moves for all the characters but nothing astonishing. Of course, all Mortal Kombat's blood and gore are still here

machine specifically designed for 3D games, but MK3 isn't even an especially good one.

When MK2, a brilliant sequel, came to the arcades and subsequently to the home consoles, there was such an obvious improvement in overall game design from the original that there was no question as to why it was made. MK3 has, on the other hand, a sense of obligation showing through its lack of innovation. There is little, outside of a few new, conspicuously uninspired characters, a run feature, and a new combo system, which simply mirrors its competition, to differentiate MK3 from its predecessors.

It would be an arrogant and unforgivable mistake to discount the allegiance to this game, and if you love the arcade version of MK3, then congratulations - now you can bring a perfect version home. But if you burned out on MK2 then it won't take you long to do the same on MK3. Rating: ***

NBA JAM TE Publisher: Acclaim Developer: Iguana Entertainment

Ever since NBA Jam, the fastaction, not-so-realistic basketball game, showed up in the arcades it has enjoyed a loyal allegiance of devoted fans making it a smash hit on just about every home console imaginable. The fact that

NBA Jam TE is one of the first US PlayStation titles, therefore, should not be a big surprise.

All the addictive qualities of this two-on-two basketball game are back in full strength and it's as good as it ever was. Indeed, knowing that the power of the PlayStation is combined with the overall simple and successful design of NBA Jam Tournament Edition, there's no reason this version shouldn't be arcadeperfect, and for those of you who just can't get enough - it is. Rating: ***



The advanced graphic abilities of the PlayStation make this version of NBA Jam TE the best yet

PGA Tour Invitational '96 **Publisher: Electronics Arts Developer: Electronics Arts**

In the sea of golf titles for PCs and consoles, the PGA Tour series has always been a constant, and with its latest installment on the PlayStation it appears some things are to be counted on. With

rating saturn

PlayStation



The three-dimensional playing fields in Zero Divide are far more than just show, with unusual characters capable of 3D moves

DEHUMANIZING

Zero Divide Publisher: Zoom Developer: Zoom

Just as we've seen every kind of 2D fighter imaginable, we are certainly in store for a few surprises in the 3D fighter genre.

Zero Divide is perhaps the first such surprise.

Though the gameplay and overall approach is highly reminiscent of Battle Arean Toshinden featuring ring outs and real 3D moves, Zero Divide separates itself through its unusual characters. Rather than using humanesque characters, this game employs androids called "Units" with a multitude of different forms. There is, for example, one character derived from the body style of a crab and another from a dragon. Some other characters' origins are simply unknown.

While the fighting action in Zero Divide is compelling with its many moves, combo opportunities, and other innovative features, it is slightly hurt by its outlandish characters. If they were capable of moves as unusual as they are, then perhaps there might be some advantage to their design, but for the most

part their moves are very much like those in other fighters.

In the end, the characters are so unusual it becomes difficult to identify with them and thus the game loses a substantial degree of its charm. Rating: ***



Some of the characters are simply too bizarre to appreciate as real creatures



One notable innovation in Zero Divide is the characters' ability to hang from the edge of the ring



There are some truly spectacular moves with which to do serious damage

its painless interface and extensive list of playing options, *PGA Tour Invitational '96* is about as close to the real thing as you're going to get without paying a greens fee.

The one place the PlayStation version comes up a little short is in graphics. They're impressive when compared to 16-bit titles, but still a little on the underwhelming side for a 32-bit machine.

Rating: ****



The digitized players of PGA Tour Invitational '96 are, at times, conspicuously flat but the gameplay is as strong as ever

Power Serve 3-D Tennis Publisher: Ocean Developer: SPS

Tennis games have been a standard in the videogame industry for as long as most of us can remember. In all that time there is little doubt that there has never been one as visually stunning as Power Serve 3. Tennis. With its polygonal figures and near inexhaustible supply of camera angles, it is truly an impressive presentation.

Unfortunately, it's not the best-playing tennis game ever. Only a few of the camera angles are workable, and some are, in fact, totally ridiculous. Beyond that, the action is sluggish and play controls are far from intuitive. With time it can be rewarding, but it does take practice. Rating: **x** Eating: **x*



The realistic motion of the polygonal players in *Power Serve 3-D Tennis* is truly amazing at times. "Legassi," is shown here

WWF Wrestlemania Publisher: Acclaim Developer: Williams

With its digitized characters,

WWF Wrestlemania is dangerously reminiscent of another arcade fighting series from Williams. Outside of the general look, Wrestlemania shares a few other similarities to the Mortal Kombat series, but it's definitely its own game.

The beauty of this wrestling game is that although the wrestlers are real, the moves are actually a combination of realistic wrestling moves and magical super moves based on each characters', well, character. Doink (the clown) is therefore, just as likely to shook you with a super joy buzzer as he is to pounce on you from the top rope.

In the end, this game looks great and plays even better.



The digitized players of PGA Tour Invitational '96 are, at times, conspicuously flat but the gameplay is as strong as ever

Saturn

Mansion of Hidden Souls Developer: Sega Publisher: Sega

There was a Sega CD port of this original PC title a few years back. At the time, Mansion was a decent little graphic adventure — a little slow, and some of the solutions were kind of obscure, but it held your attention.

This version expands and updates the original, and could almost be called a sequel. The interiors of the titular mansion have been re-rendered, and while moving through them is still a slow process, at least they aren't the colored-in monochrome pinks found on Sega CD. Also, the spirits of the house, which had been represented by animated butterflies, have been replaced by see-through rendered floating heads. In addition, the adventure is much larger and more complex than before, which boils down to the title being bigger and more obscure than ever.

rating saturn

Saturn

WHIRLING

Publisher: Sega

Developer: Sega Away Team

Challenged to develop a realistic flightsim/action game like Sony's Warhawk and 3DO's Bladeforce, Sega brings to the floor Blackfire. This helicopter battle game falls into the familiar trap of being stretched too thin to be effective. Complex controls combined with frenzy-style ambushes create a frustrating atmosphere from the beginning. The extensive learning curve is, when all is said and done. responsible for a certain amount of satisfaction but it takes too long to grab your attention.

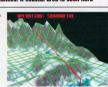
The obvious attempt to be all things to all gamers makes it too easy to overlook the impressive elements of Blackfire, such as the occasionally stunning graphics and intense action sequences, but with time these rewarding facets do manage to make their way to the surface. Perhaps if there was more of a strategic approach to the action as opposed to the shoot-'em-up angle, then these elements would be more obvious. As is, Blackfire has its moments, but it lacks a consistent hook.

Rating: ***



The texture-mapped landscapes and colored skies of Blackfire create a dynamic backdrop for the intense action sequences. A coastal area is seen here

The mission objectives add a nice strategic touch to the primarily actionoriented gameplay





and helicopters to perform impressive (albeit not entirely realistic) reactionary maneuvers



The long list of weapons make it difficult to keep track of your armorments, but each is powerful and useful in its own particular way

In spite of its shortcomings, Mansion of the Hidden Souls remains intriguing and engaging it's just not a good game for newbies to the genre.

Rating: ***



Local spirits in Hidden Souls are represented by floating heads

NHL All-Star Hockey '96 Publisher: Sega **Developer: Gray Matter**

NHL All-Star Hockey for the Saturn is loaded with views, options, stats, players, and video clips. The only thing they forgot to include was a good playable hockey game.

With all the choices of views there still isn't one that works as well as EA's NHL '96. Either the camera is too close and you can't see an open winger for a pass or it's so far away you can't even

see the puck. When you do see the action (which is rare) there isn't much action to see. The players move along at a snail's pace and the checks are anything but powerful, NHL All-Star Hockey isn't the worst hockey game ever, it's just the most disappointing. Rating: **



Where's the puck? One of everal views in NHL All-Star Hockey that just doesn't work

Off World Interceptor **Publisher: Crystal Dynamics Developer: Crystal Dynamics**

Combine the edge-of-your-seat action of an off-road racing game with a futuristic battle field and you've got a working picture of Off World Interceptor.

The object of getting from point A to point B is made interesting by the fact that you're surrounded by enemy vehicles, mines, and an unforgiving terrain.

The action in OWI is just fast and rough enough to take some of the strategic elements away from the gameplay, but in the end, it feels quite natural to head straight into a near-vertical incline at ton speed and expect to do just fine.

OWI is a solid action game, if not much beyond that.

Rating: ***

SimCity 2000 **Publisher: Maxis Developer: Maxis**

As part of an elite crowd of games to succeed on many different game platforms, the SimCity series has maintained a level of success on both PCs, Macs, and consoles alike,

SimCity 2000 on the Saturn is a carbon copy of the latest installment of this city-planning



It's anything goes in the off-road racing action of Off World Interceptor

INTERACTIVE MAGIC PRESENTS

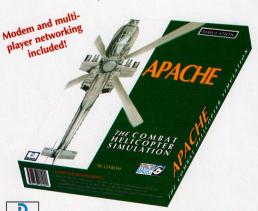
APACHE

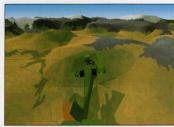
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"From weapons control to campaign system, and everywhere in between, APACHE's just got all the competition beat cold. This is the simulation you'll be playing and playing, and playing, month after month, year after year. Absolutely, a must-have!"

-Strategy Plus, October 1995

PC Gamer FINAL VERDICT: 95% "Terrific flight model, countless options and missions, great gameplay. A flight game with such broad appeal that everyone from arcade players to hardcore sim hounds should delight in it." -October, 1995









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Whether you choose ECCO THE DOLPHIN, COMIX ZONE, TOMCAT ALLEY or all three, you can't lose! Because Sega has enhanced these hit games specifically for today's faster PC processors.

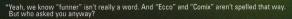
Think of it. The speed and quick-response action you love about Sega together with the graphic sophistication of PC software. What could be funner*?



COMIX ZONE now features lightning-quick arcade-style action, instant installation for instant fighting, as well as great graphics drawn by real comic book artists!









TOMCAT ALLEY has a higher video frame

of near-VHS quality video, plus full-screen video. And, it's joystick-controllable!

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simulation game, and, as such, it carries with it the monstrously addictive quality and absorbing challenge of all SimCity games.

The only major problem is that the game was designed for use with a mouse, and the Saturn joypad simply isn't up to the job. Still, Sim City 2000 offers Saturn owners a unique experience.

Rating: ***



Dealing with the daily problems of your city in SimCity 2000 is a challenging goal that requires both patience and foresight

Virtua Racing Publisher: Time Warner Interactive Developer: Time Warner Interactive

Bringing Sega's first polygonal racer to the Saturn is less than the videogaming scoop of the year, especially with games like Sega Rally soon on the way. There is, however, little doubt of Virtua Racing's impact on 3D racing and there may be enough alleglance to this title to accept a first-rate translation.

Fortunately for VP fans, this is not only near arcade-perfect, it also contains crucial features not present in the original. Included in the list of extras is a circuit mode, new cars, and many new tracks. While this title is not likely to blow you away, it is extremely solid and still a great deal of fun. Rating: *x4x*.

3D0

Alone in the Dark 2 Publisher: Interplay

Developer: InfogramesEdward Carnby, the puglilistic paranormal detective from *Alone in the Dark 1* is back, ready to face even nastier creatures and tote even bigger guns.

This is a direct port of the PC title, and a huge game with a great cinematic feel and lots of fiendishly clever puzzles. It's also damned difficult to control, which makes killing off the Tommy-gun wielding creatures who oppose you much more of a task than it should be. It's often impossible to aim your own weapon correctly, especially given the poorly chosen from which you view the angles they look great when you're walking around, but rarely give a feel for the lay of the land when you have to defend yourself. The music, a combination of nursery tunes and what sounds like Dixieland jazz, could also have been better chosen, since it's much too upbeat to sustain any suspense at all.

Still, it's a mighty good time in spite of its flaws, and a small wonder of a title in the world of console games.

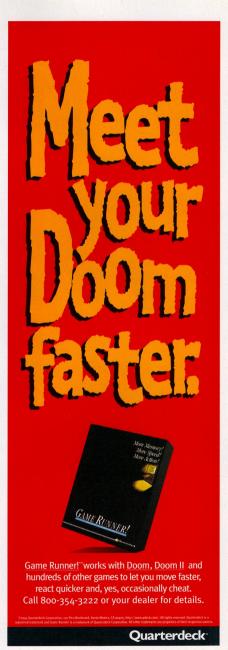
Rating: ***



Edward Carnby squares off against machine-gun toting zombies in *Alone in the Dark 2*



Lacking the sophistication of *Daytona USA* or *Sega Rally, Virtua Racing* is still a lively 3D racer. Time Warner also added a series of new courses



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3D0

DIZZYING

Bladeforce Publisher: Studio 3D0 Developer: Studio 3D0

This isn't the first release from Studio 3D0, but it is the most significant for a number of reasons. At a time when 3D, polygon based, texture-mapped environments are becoming *de rigueur*, show-off standards among the newer next gen consoles, it begs the question, just how well can the aging 3D0 keep up?

If Bladeforce is any indication, we are pleased to answer the question: just fine. Granted, the technical limits of 3DO compared to Saturn or PlayStation are apparent: the textures are simpler, and the draw-in horizon is much closer than you'd see on other systems, but it's a testament to the Bladeforce design team (led by Bill Budge of Pinball Construction Set fame) that you simply wouldn't notice or care unless you looked. This is easily one of the best games ever made, for 3DO or any system.

A heli-pak "simulator" set in a futuristic nightmare of an urban landscape, Bladeforce is nonstop, balls-to-the-wall action from start to finish. Each of the game's seven levels are huge, devastatingly lethal sections of the fictional Megagrid City, each packed with enough enemy hardware to destry to please even the most jaded pyromaniac. Further, there is complete freedom of movement fly anywhere, at any time, even head straight for the level boss if you wish, while the landscape twists and rolls beneath you. It's gorgeous, flendishly challenging, and a smashing good time. What more could you want?

Rating: ****



it is chock full of nonstop action and huge devastatingly lethal levels

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D Publisher: Panasonic Software Developer: Warp

As *D no Shokutaku* (**NG 7**), this was a bona-fide hit in Japan, generating a strong cult of fans known collectively as "*D*-freaks."

This graphic adventure follows its female protagonist, Laura, through a strange, crumbling castle, and contains some of the most impressive and genuinely frightening pre-rendered sequences we've seen yet (even more impressive for the fact that they were rendered using Amiga 4000s, not \$50 workstations.)

Of special note is the character animation — Laura is incredibly expressive, and this adds a great deal to a player's involvement. However, as undeniably creepy as this is, it's also slow, not too challenging, and very, very short.

Worse, the Japanesetranslated dialogue could have used a rewrite and better voice actors — it was scarier when we couldn't understand half of what they were saying. It's still absorbing, at times intense, and more enjoyable than the overall rating would imply.

However, D's challenge level and brief running time won't let us rate it any higher, and mostly, we look forward to the sequel, an M2 project with little pre-rendering and a more expansive story.

Rating: ***



D combines excellent rendered graphics and incredible character animation with some lame puzzles and a tiny storyline

Flying Nightmares Publisher: Domark Developer: Lifelike Productions

Packing in all the ordnance you could ask for (from Mk82 iron bombs to Maverick missiles) Flying Nightmares offers the player a seal in the cockpit of a Harrier Jump-let. Flight sims such as this for home consoles are a rarity, and for all "Nightmare's achievements, it also illustrates the difficulties this genre faces.

The controls are understandably complicated, but not terribly user-friendly and with a learning curve that's steeper than it ought to be. The player is required to hit, say, the right shift and C-buttons at exactly the same time to apply air brakes, making them practically useless, especially in combat. By contrast, Wing Commander III.

with an equally complicated function layout, enables you to get away with holding a shift button, then tapping the appropriate second button at your leisure.

Also, FN isn't a nimble sim to fly, and it's prone to be touchy on the stick (oddly, it's worse when using the supported Flightstick). In conclusion, this is as good as the 3DO is likely to see, but still not recommended for everyone. Rating: ***



You can fly it, just not very well. Still, since Flying Nightmares is one of the few flight sims available for a console system, it's worth checking out

Killing Time Developer: Studio 3D0 Publisher: Studio 3D0

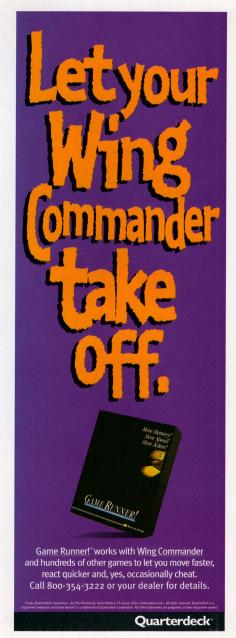
The joke goes like this, "It's just like *Doom* except [insert difference here]." And, in this case, the difference is substantial enough to make our staff sit up and take notice.

The game is set in a crumbling mansion, the site of a mysterious 1920s party where everybody just disappeared. Imagine what it would be like if Shelly Duvall had been wielding a shotgun at the end of The Shigning and you get the idea, except there's slightly more humor (black, but humor). The engine moves well enough, and if the texture maps are a little monochrome and blocky, we forgive them.

There's an actual mystery to solve under all the action, which includes enemy zombie chefs and ducks — that's right, ducks. It's is the same thing, only different, since you get a chance to use your brain as well as your reflexes. In short, Killing Time is the bastard child of Doom and 7th Guest, and it works. Another encouraging title from Studio 3DO. Rating: *****



Killing Time is a Doom clone with a difference — it's actually good



rating jaguar



The animation is bad and the story is boring. Aside from these minor flav Kingdom still isn't that good. Lathan, the main character, is shown above

includes not only the complete Wolfenstein, but also an equally large Escape from Wolfenstein sequel, which is more mutant Nazi action than anyone needs.

For the record, W3D moves extremely well and looks really good, with more detailed bit-maps than were even in the original PC version (although everyone's favorite Chain Gun is oddly truncated). It's also completely uncensored with Nazi symbols and dving attack dogs intact

However, at this point in time, you have to wonder why this is out at all. It's still as addictive as it ever was if you've never played it, but by now anyone who's interested has either given it a shot or moved on to one of the dozen versions of the vastly

superior Doom - or its thousand and one clones. One final note: it also loses one star for having the gall to leave out the immortal "Mein leihen!" Yawn Rating: **



The one or two people reading this who haven't tried Wolfenstein 3-D should check out this version. Everyone else should definitely steer clear

Kingdom: the Far Reaches Publisher: Interplay Developer: Virtual Image **Productions**

Basing a graphic adventure around video sequences isn't a bad idea, and it shouldn't be hard to outdo the competition (Phantasmagoria, and does anvone remember Dracula Unleashed?), but Kingdom doesn't even come close.

This game suffers from all the sub-genre's drawbacks (terrible repetition, oddly disjointed and even unrelated series of events), with little or none of its strengths (cinema-like sequences, instant character identification). As a game, there's little logic and a problematic interface - you've never seen a screen cursor move so slowly. Spells have a pasty habit of not even being an option just because you haven't reached that point in the "story;" and as a story, it fails at every turn.

The central character, Lathan, is a remarkably bland hero, and the adventure is a generic spelland-dragon paté you've seen a hundred times before. The music is liable to induce Renaissance festival flashbacks, the animation (from the same producers as Dragon's Lair), is barely up to Saturday morning cartoon standards, and the video suffers from miserable compression artifacts. It's not all bad, but there's little that's good. Rating: **

Developer: American

Laser Games Publisher: American Laser Games

We sincerely apologize to American Laser Games for giving it a rough time about continually producing the same title over and over (Mad Dog MacCree I & II.

Who Shot Johnny Rock, Space Pirates, etc., etc.). Hey folks, light gun games are fine by us. OK? Really. But just promise to never, ever put us through the kind of pain we went through in our attempt to "play" Mazer



If the spirit of True Awfulness were distilled down and printed on a CD, it would look just like this, the miserable Mazer

A 3/4-view isometric shooter of the worst sort using tiny, digitized characters, this title gives the most frustrating gaming experience you can remember. Controls refuse to respond. enemies refuse to keep coming, objectives are obscure at best, and to top it off, the view keeps zooming in and out, apparently at random, so you're never quite sure what's around you. Since each level is roughly the same shape and the same ridiculously small size (not even 10 character widths by 10 character widths), they simply made each of them impossible to defeat - gee, that must have taken a whole weekend to work out. The CD might be suitable for use as a coaster, but that's about it. Rating: *

Wolfenstein 3-D Developer: Id/Logicware **Publisher: Interplay**

Hey, CDs are cheap to print, why not squeeze a few extra bucks out of a dead horse? This disk

Jaguar

Jaguar

THE ONLY ONE

Highlander: The Last of the MacLeods CD

Publisher: Atari Developer: Lore Design

Based on the animated series, Highlander is one of very few role playing games for the Jaguar. As one of the first releases on CD format, this title flexes its storage muscle with an in-depth plot and extensive cinepacked sequences taken from the animated series. The animated sequences are sharp by any standard and the rendered graphics of the actual game are impressive.

The plot of the game revolves around the character of Quentin MacLeod, an immortal responsible for unraveling the secrets of his heritage while rescuing his people from the clutches of the only evil immortal, Kortan. The game itself is a combination of action and RPG elements though it's not likely to satisfy strict action fans with its heavy play controls and sluggish response time. The RPG elements are handled nicely with its 3D playing fields and self-adjusting camera angles. The interface is easy to pick up and enables you to spend more time on solving the mysteries of the game.

For Jaguar CD owners with a taste for RPGs, this is as close to being a "must have" as you can get.

Rating: ***



Self-adjusting camera angles follow the game's action well. The Last of the MacLeods shows off the Jaguar CD's storage abilities



rating 32X pc

32X

Kolibri **Publisher: Sega Developer: Amoeba**

Trying to remember why you bought that 32X? Well, Sega is hoping you've been waiting for the ultimate hummingbird simulation game. That's right, in Kolibri you are a hummingbird (not even a wisecracking, zany hummingbird with an attitude, just a hummingbird) and you fly around toasting insects with the guided missile on your beak.

Without a doubt, this is one of the most absurd game premises. It's a fight for pollen and survival: clear out all the nasty bugs with one of the many power-ups and continue to do it over and over.

The game controls well and is interesting for a bit, but there isn't anything in Kolibri that couldn't have been done on a Genesis, and after a few plays it gets very monotonous. So unless you're a member of the Audubon society, this one's for the birds. Rating: **



A hummingbird with a guided missile on his beak, that's believable. But as a videogame, Kolibri just isn't that fun

PC

Ascendancy **Publisher: Broderbund Developer: The Logic Factory**

A band of ex-Origin designers has formed to create The Logic Factory, and its first title, Ascendancy, may be one of the best space-strategy sims around.

You play as one of 21 aliens and control its expansion to the stars. The game holds all the key ingredients - research, the building of colonies, diplomacy with other races, and even space combat. It's all tied together into a seamless interface that not only makes the game easy, it leaves the complexities of nanomanagement in the background.

The graphics are superb, slightly reminiscent of Sierra's Outpost. The variety of species will give you hours of replay value since the winning strategy changes with each alien. With several game settings, you can customize the length and difficulty of the game to suit your playing style, making Ascendancy suitable to just about every gamer. Rating: ***

Battle Beast Publisher: 7th Level Inc. Developer: 7th Level Inc.

Developer 7th Level has created an incredibly fun and visually stunning fighting game for Windows (95 and 3.1). Battle Beast's animation is solid enough for a Windows environment, and the play control, though not perfect, is well done. There are plenty of secret items to find, as well as several special moves.

The humor of the game's animation is its strongest point. The battle beasts are cute, cuddly animals that transform into fighting machines. The cartoon graphics enhance the silliness of the game, making it fun just to watch. At its heart it's still just another 2D fighter, but its lighthearted feel gives it an edge over many of the others out there. Rating: ***



Battle Beast's creatures are deceptively cute and cuddly

Dungeon Master II: The Legend of Skullkeep Publisher: Interplay **Developer Interplay**

There's no denying that the first Dungeon Master game (released back in the '80s) was a fantastic title that kept gamers enthralled for months, but in the 10 years since its release, technology has come a long way.

Strangely enough, Dungeon Master II clings tenaciously to its roots with dated graphics, lengthy dungeon mapping, and an interface that is frustrating at best. Up against today's faster moving, prettier looking, and more entertaining role-playing games, there's nothing here that players can't get better elsewhere.

There are some bright points. like a refreshingly different magic system, and easy-to-learn controls, but these do very little for the overall impact and play of the game. Die-hard fans of the early RPGs may appreciate this title, but if you want a new experience for your money, you're best off looking somewhere else.

Rating: **



Not only are the graphics dated in Dungeon Master II, but the sub-quests are painfully cliche

Heroes of Might and Magic Publisher: New World Computing **Developer: New World** Computing

A new breed of fantasy strategy gaming, Heroes of Might and Magic is part wargame, part adventure, and part sim. It seemlessly captures the best of all three genres, and presents the whole package with bright. colorful visuals.



It's during battle that the true strategy of Heroes comes out. Wise deployment of your units makes the difference between victory or defeat

The basic goal is to expand your realm by sending heroes out to fight monsters and enemy forces as they go. You build your castle from the ground up, drafting creatures for your armies, recruiting more heroes to lead them into battle, and directing the construction of various structures to support your kingdom.

This is a game that's easy to learn, but difficult to master. Management of resources is just as important as thoughtful battle strategy. With several scenarios of varying difficulty, as well as multiplayer support, it will be a long time before this one leaves your hard drive. Rating: ***

The Last Bounty Hunter Publisher: American **Laser Games** Developer: American **Laser Games**

American Laser Games is only known for one type of game full-motion video shoot-em-ups. Its latest, The Last Bounty Hunter, puts you in the Wild West with the job of hunting down and killing four ruthless outlaws. The less than creative storyline is representative of the listless feel of the entire title.

Using a mouse or the new ALG PC Gamegun, you basicallly move through scene after scene of gunslinging bad guys who you must shoot before they shoot you (what fun). The only major difference between this title and all the other ALG games is that the order in which you hunt the outlaws changes some of the shooting stages.

As full-motion video shooting games go, this is the best of the bunch, but that's not saying much. Check it out only if you want some completely mindless shooting action on your PC. Rating: **

Publisher: TDA! **Developer: MakeltSo Software**

While it's promising at first glance, Mordor doesn't deliver. Basically a no-frills role-playing game for Windows (95 and 3.1), Mordor is made up of several areas to view stats, items, spells - just about everything you want. The characters' accessibility is wonderful, especially since any info you could want is right there. The problem is, it's just not fun.

The game consists of wandering an impossibly huge dungeon, killing monsters, and finding treasure so you can move up the ranks. There's no story and no puzzles. Unless this sounds like your idea of what role-playing is all about, it's best to steer clear, Rating: **







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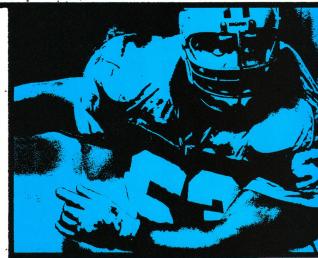
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rating macintosh

PC

VICTORIOUS

Command & Conquer Publisher: Virgin Interactive Entertainment Developer: Westwood Studios

Touting a hard-hitting soundtrack and some lightning-fast action, Command & Conquer turned out to be well worth the wait. Although the graphics are a bit chunky—a high-resolution mode would have been nice—the gameplay is as smorth as sign.

Unit control is simple and intuitive, similar in many ways to the company's previous hit, Dune II, while strategy remains deep and complex. The huge variety of units, from vicious Mini-gunners to the massive Mobile Construction Units, adds a surprisingly realistic feel to your battles.

Multimedia audio and full-motion video cutscenes add tremendous amounts of depth to a game that is already fun and dangerously addictive. All in all, Command & Conquer is a game that any strategy fan has to pick up.



These Global Defense Initiative (GDI) soldiers are diligently destroying the Brotherhood of Nod's structures. This is just one of the simpler pleasures of Command & Conquer

This guy leads the Brotherhood of Nod, the ruthless terrorist group set on controlling the world. You can either help further his cause, or battle his minions as part of GDI (right)



Guarding your Mobile Construction Units is of utmost importance. Without it you can't build any new structures, leaving you vulnerable to enemy attack





In *Phantasmagoria*, this theater lies in Adrienne's new home. Not only does it give insight to the strange mind of the previous owner, it's creepy

Phantasmagoria Publisher: Sierra On-Line Developer: Sierra On-Line

Phantasmagoria is a full-motion video-based graphic adventure placing you in control of Adrienne, a writer who must discover the secrets of her new home. A great game for new graphic adventurers, this title isn't too challenging and has a wonderfully involving storyline. Unfortunately, if you're an experienced gamer, you may

find it's priced a bit high for the day or two it takes to finish it.

Perhaps the most impressive thing about Phantasmagoria is that it's managed to mix FMV into a game without causing slowdown or poor control. The video is excellent, and uses live actors in a computer-generated set. The acting isn't the best you'll ever see, but all things considered, it's still a great deal better than most of the other FMV games out there.

Phantasmagoria is a big game with a great story to tell and it has the guts to show off some pretty graphic violence (no pun intended). But gore and giltz do not a game make, and the lack challenge will be enough to turn off most of the hard-core gamers. Rating: **x**

Prisoner of Ice Publisher: I • Motion Developer: I • Motion

Even with its beautiful cel animation and hand-painted backgrounds, *Prisoner of Ice* is driven by its story. You play a US Secret Service agent working for the British Royal Navy in 1937, who comes across creatures straight out of the terrifying stories of H.P. Lovecraft.

Right from the start, the story grabs you and doesn't let go. Strong animation art and speed lend a realistic feel to the character movement, ensuring gamers are never pulled out of the eerie atmosphere during play. Sadly, Prisoner of Ice falls prey to a fault plaguing many graphic adventures: bad voice acting. Throughout the game, a number of otherwise suspenseful scenes are wrecked due to emotionless vocals. It's worth checking out for the great storyline and art, but not good for much else. Rating: ***

Macintosh

Endorfun Publisher: Time Warner Interactive Developer: Onesong Partners

Endorfun is an attractive, abstract puzzle game in which the player maneuvers a 3D cube around a transparent grid, attempting to absorb shifting target squares. Sounds horrible, right? It's not. Fedorfun soon becomes a Zen sort of experience in the same way that Tetris sometimes does, only with one added bit of weirdness: this game puts things in your brain.

In keeping with Onesong's goal of "providing positive, lifeaffirming experiences," the entire game is crawling with positive subliminal messages, embedded in the kaleidoscopic background and the rhythmic world-beat soundtrack (courtesy of the O Band). Endorfun's abstract symphony of mesmerising graphics, colorful motion, and swelling, jazzy background tunes soon puts the player in that autopilot gaming state where complex movement sequences and on-the-fly strategies become second nature and all is forgotten but the rhythm.



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LIFE IS G D D

id

It's Doom in its original entirety along with the all new demented episode four. "Thy flesh Consumed." Je's called Ultimate Doom, It's the bind of hilling that makes life worth living.

rating genesis

Once you've mastered the game, *Endorfun* is pretty (and trippy) enough to just leave running on your monitor as ambient environment-candy. **Rating:** ***

Full Throttle Publisher: LucasArts Developer: LucasArts

In the eternal eye-gouging, gutshooting, back-stabbing philosophical rift of game design graphics versus gameplay we sometimes forget that, above everything else, a game should be fun. However you slice, peel, or crack it, the thing should bring you pleasure. Full Throttle, the kind of game the Mac was meant for, is a sheer joy to behold, even if you loathed Monkey Island with a seething, purple passion. LucasArts has cleaned up its userinterface act, providing a darn near zero-interference, truly cinematic game.

Set in a pleasingly vague Mad Max-style near future, Full Throttle follows gruff, bad-ass biker Ben on an animated quest to save his motorcycle gang from a vicious frame-up — and to avenge the murder of hog-mogul Malcolm Corley, the last motorcycle manufacturer in the country.

With fresh, entertaining cinematic treatment, a kick-butt rock soundtrack (by the Gone Jackyls), excellent voice talent (including an excellent Mark Hamill as the sleazy Adrian Ripburger), and an everpresent, understated humor, Full Throttle redefines the film-style gaming experience without ever touching

one cruddy FMV sequence. We enjoyed it through and through. Rating: ****

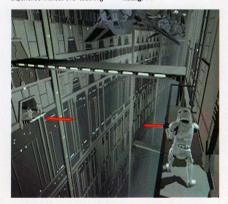
Star Wars Rebel Assault Publisher: LucasArts Developer: LucasArts

Always lagging behind the PC people as far as game releases go, Mac-heads are always getting the best latest...that's the usual consolation story, anyway. At any rate, Rebel Assault is finally here, and like every other LucasArts Star Wars game, it's pretty, cinematic, and smooth, if just the tiniest bit unforgiving (judging your craft's proximity to canyon walls can be tricky, and the first mission, broken up into two sections, must be repeated in its entirety in the result of a secondsection failure).

Players pilot various vehicles from the Star Wars universe in third- and first-person viewpoints: missions include A-wing training flights in Beggar's Carnyon, drone bombing runs, nasty X-wing dogfights in asteroid fields, assaults on Imperial Walkers, raids on Imperial Star Destroyers, and even close-combat corridor encounters with stormtroopers (in-your-face gamers will want to go right to LucasArts' Dark Forces for this latter type of action, however).

Yes, the gameplay is silky and yes, the music and visuals are terrific, but this is, after all, an "arcade" game, and the rails here will get old fairly quickly. If you're really into Star Wars, Rebel Assault will make you happy.

Rathie: **A**



Above is one of the few mano-y-mano, close-corridor scenes with those terrible-aiming Stormtroopers in LucasArts' Star Wars Rebel Assault. Among other levels, the flying scenarios are a little too unforgiving for us

Genesis

FIFA '96 Publisher: EA Developer: High Score

Two years ago FIFA (on the Genesis and Super NES) started the whole soccer game craze with one of the best-rounded sports games ever. Last year's game was an improvement on that and this year's effort adds even more.

No more fake names for the footy heroes, IFIA '99' includes several real soccer (football) leagues (Fagland, Brazil, Italy, US, etc.) with all the up-to-date players. You can play out these leagues or play for the cup in a tournament. Any way ou do it, IFIA is one of the most accurate soccer sims around. While the Genesis version can't hold a candle to the near-perfect 3DO version, it's still the best 16-bit soccer available and a great game beyond that.

Whether you're a soccer purist or you just enjoy a good multiplayer sports game, FIFA '96 won't disappoint.

Rating: ***



Realistic action, great sound, and great animation make up FIFA '96

Light Crusader Publisher: Sega Developer: Treasure

Treasure, the hot Japanese developers who brought you Dynamite Heady, worked long and hard on Light Crusader in the attempt to finally make the definitive action/role-playing game. The problem with this genre has always been that there isn't enough action for the action fans and the RPG elements are too simplistic for RPG fans.

Treasure's experience with action games shows through in Light Crusader. Side-scroll norms to beat and raised platforms to beat and raised platforms to Jump on resemble levels from Dynamite Headdy. One problem with the action elements is the perspective which the game is played on. The 3/4-overhead perspective means you can only move the character diagonally, which makes for control problems.



Pretty Light Crusader gives height to its RPG characters

In addition to these dilemmas, the puzzle elements are too simplistic (like for instance, moving a loose brick over a switch), and the storvline is quite shallow.

Light Crusader is still one of the more exciting and graphically pleasing Genesis titles that has come out recently, but this is by no means a RPG.

Rating: ***

Madden '96 Publisher: EA Developer: High Score Productions

Madden '96' is a definite improvement from last year's poor effort. The players are more solid and each player has the correct number on their jersey, which is a nice Madden is known for is back and the computer is a much tougher opponent. But Madden has never been known as the best oneplayer game, and Primetime NFL '96 by Sega is a better sim. Madden sets itself apart in a being a great two-player game, and '96 is no different.

Every player and each team are present, along with the usual "watch out for that truck" Maddenisms, but beyond that, the Madden series is starting to stagnate, and is in need of a 32-bit overhaul (soon to be on the PlayStation, Saturn, and PC). Madden fanatics need this game for the updates and arcade players will love the two-player game. Madden is still one of the best 16-bit football games, it's just no longer ahead of the pack.

Rating: ***



Last year's transparent players are replaced by solid well-drawn players. *Madden '96* is a big improvement over its predecesso

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EAT DIRT!

Earthworm Jim 2 Publisher: Playmates

Developer: Shiny Entertainment
With the original Earthworm Jim
settling new standards in 16-bit
action gaming, Earthworm Jim 2 has
some big shoes to fill. For the most
part, this long-awaited sequel has
answered the success of the first
installment using more of the same
humor, action, and skill, adding a
few surprises this time around.

With new stages, such as one which requires inflating Jim's head to float up a hazard-ridden passageway, and one in which Jim floats about inside of the intestines of some unknown being, this game

goes places the first didn't. And that's good. There is also a good bit of the humor demonstrated in stages such as Puppy Love, in which Jim is forced to bounce a parade of pupples to safety on what appears to be a giant marshmallow.

All in all, Earthworm Jim 2 is a logical and satisfying sequel to the original and if you've been waiting for it, you won't be disappointed.

Rating: ***



Once again the developers of Earthworm Jim 2 have managed to squeeze an impressive amount of colors and detail out of the Genesis. Jim inflates his head to reach the top



As in the original, humor still plays a big part in this game



With an entirely new list of new stage ideas, this is not a simple rehash of the original











Brona, the ancient Warlock King has returned! Face awesome magic, hostile terrain and fearsome monsters in this original story guaranteed to thrill any adventure fan. A multimedia spectacular complete with sophisticated 3D modeled images, incredible animation and over 40 speaking characters.

rating super nes

PGA Tour '96 Publisher: EA Developer: EA

The best console golf series ever continues on with PGA '96. although some things have changed. This year there's a new swing meter that takes a bit of getting used to, however once you've mastered it you'll find it's just as simple as the old one.

However, the question remains: Do you need an annual update on a golf game? PGA '96 certainly isn't considerably better than PGA '95, and unless you're a golf fanatic, there isn't much reason to get the new version

Still, if you haven't sampled any of the PGA series, it is still the best golf game available for the 16-bit machines and a fine addition to your library.

Rating: ***

Quarterback Club '96 Publisher: Acclaim Developer: Iguana

Last year, the second edition of Ouarterback Club was a solid game that couldn't compete because it had no players' license and didn't track stats. This year both of those problems have been corrected and Ouarterback Club '96 is right up there with Madden '96 and Primetime NFL '96 as one of the best football sims.

The graphics in QBC aren't quite on par with the others, but the game plays just as good if not better. The one area QBC beats all the competition in is the passing



In Separation Anxiety, the sequel to Maximum Carnage, Spidey and Venom do battle in one of many generic levels. Look fun? We didn't think so

game. No longer do you have to run your quarterback back 30 vards and then pass, in OBC you can actually drop back in the pocket and wait for an open receiver. The running game is solid, but often you're left guessing where your back is because of the unclear graphics.

OBC '96 still isn't the Madden beater the developers titled it, but it's very close. Rating: ***

Separation Anxiety Publisher: Acclaim

Developer: Software Creations Although you wouldn't know it by the title, Separation Anxiety (not a movie about divorce) is the sequel to the popular Maximum

Carnage. Once again, you get to take Spidey, Venom, or both in the two-player game through several Final Fight-type levels, by punching, kicking, and web-slinging.

The graphics, action, and sound are all on par with its predecessor, but nothing of interest has been added. Fans of the comic book are likely to appreciate some of the authenticity of the story (due to Marvel's involvement), and some fans can never get enough of the webbed-one. However, if you're looking for a good action title, Separation Anxiety isn't the answer, It's just too much like so many other games and offers nothing new or interesting. Rating: **

Super NES

Emmitt Smith Football Publisher: JVC Developer: JVC

With the onslaught of 16-bit football games hitting the market. a game needs something to set it apart. Emmitt Smith Football sets itself apart with the first-ever make-vour-own-plays system for a home console.

Every arm-chair quarterback in the world has sat on their sofa thinking of better plays. And now, here's a chance to prove your moves. You can make and save up to 96 different strategies, then take 'em to the field and see if Bill Walsh has anything on you. That feature alone is great. unfortunately it's the only thing that keeps Emmitt Smith Football from being one of the worst football games on the market.

Once on the field, the poor graphics and even worse gameplay make the testing of your plays anything but fun.

If there was just a football game to go with the playmaker, Emmitt Smith Football could've been a contender. Rating: **

Final Fight 3 Developer: Capcom Publisher: Capcom

The original Final Fight was cool and interesting in its time, but

Genesis

SWISH

NBA Live '96 Publisher: Electronic Arts Developer: Electronic Arts

Last year, Electronic Arts introduced the 3/4 perspective to the basketball genre and with it some of the fastest five-on-five action ever. This year, the same game and engine return with complete statistical updates, a crisper look, and some improved gameplay.

The new features include a spin move or crossover dribble and an ability to post-up. The post-up move is the biggest improvement. Now you can dump the ball inside to a big man, then use a pivot foot to get an open shot. The offensive and defensive plays have expanded and are even easier to use on the fly. But the single best new feature is the create-a-player feature. Now you can create players, like rookies and superstars left off due to licensing agreements, to make this a true sim. EA has even cheated a bit to take care of the ratings: Type in Michael Jordan as a name for a new player and you get complete ratings, size, number, and the college he attended, this feature works the same for all significant draft picks.

While the action and graphics in Slam 'N' Jam (Crystal Dynamics for 3DO) are still superior, NBA Live '96 for the Genesis is the best basketball simulation out there, anywhere.

Rating: ****





Sub-Zero. Formerly of the Lin Kuei. Ex-ninja. Chosen warrior against Shao Kahn.

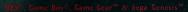


The man's tougher than ever with new ways to fight. New ways to kill. You could



say he's out for revenge. Or you could just be smart and get out of his way. Super



























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The hit video game - Earthworm Jim - new and improved for Windows* 95. Twenty potent levels. Pumping 256-color graphics. Heart-racing CD soundtrack. It can net distracting.



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rating arcade

that was more than four years ago. This is the second sequel. and it adds almost nothing new.

There are four fighters: the dependable Haggar, Guy (who was passed over in the original home conversion of Final Fight). Deen, and a new female, Rusia. There's also a new category of Super moves - totally supernatural explosive specialeffect affairs, reminiscent of Street Fighter special moves.

Otherwise, this game is completely derivative, and



Final Fight 3 adds four new fighters as well as a new category of Super Moves

technically it could just as easily be the first in the series as the latest. It's not dull, but it's not all that exciting either. Rating: **

Tecmo Super Bowl III: Final Edition Publisher: Tecmo

Developer: Tecmo

In the primitive days of the 8-bit NES. Tecmo Super Bowl was the ultimate console football game to own. Now, with the technical and graphic advances of '90s, the company still makes football games, and their look hasn't changed all that much.

Tecmo Super Bowl III: Final Edition is not too different from its other gridiron entrees. All the players, teams, and stats are here, but that's it. The old sideperspective is made even worse by the round little players and the less than desirable soundtrack. The playbook is ill-conceived, hard to work, and has few plays

Compared to the other 16-bit football games (Madden '96 or Ouarterback Club '96), Tecmo Super Bowl: Final Edition just isn't in the same league. Rating: *

Arcade

Area 51 Publisher: Time Warner **Developer: Time Warner**

Basing its new laser-gun shooting game on the easily hypeable. secretive governmental base. Time Warner's Area 51's solid entry brings new energy into a worn out genre.

After two years in the development labs, Area 51 provides shooters with what they want: six digitally-rendered dark and gloomy, varying levels, tons of zombies to shoot at in realistic gradated fore- and backgrounds (including an alien boss at the end level), and an intriguing story that will keep those fanatical 10% of hard-core gamers itching for more. Power-ups include a riot gun, grenades, machine guns, and extra ammo (with enough ammo in each, you can upgrade to a more powerful weapon). Ammo boxes can be shot at for more power-ups, and just for the fun of it, players can shoot at everything: fire extinguishers, waste-barrels, windows, and more.

Area 51 has its attractions: the colorful action, arcade-style shooting patterns, and intriguing top-secret military themes. But the fact is, it stands up better against shooters of the past like Virtua Cop 1 and Mad Dog McCree, and not the current crop. Rating: ***



nearby barrel and do twice the damage to these zombies who line up for you in Area 51

Crypt Killer Publisher: Konami **Developer: Konami**

What we have here is the quintessential rapid-fire, skill-less, anxiety-packed shooting game. perfect for shopping with the relatives on holidays.





A politically incorrect CD-ROM game.

Coming January 1996





rating arcade

Arcade

FANGLESS

Fighting Vipers Publisher: Sega Developer: Sega AM2

With Virtua Fighter 3 still in development, Sega's attempt to fill the glutted fighter market will be both welcome and carefully analyzed by a somewhat cynical fighting game crowd. Fighting Vipers contends as a beautiful, highly polished, polygonrendered and texture-mapped game featuring brand new characters, unprecedented closed-in arenas (for a 3D fighter), a slightly different set of fighting strategies using armor, and a more cinematic style of viewing.

Using the new Model 2B board — a modified, smaller Model 2 Board used also in Indy 500 and Virtua Cop 2 - AM2 developed a Virtua Fighter 2-quality game seemingly aimed at a younger crowd. The moves, including the standard array of kicks, elbows, over-hand swings, uppercuts, and throws - are easier to pull off than those in the aforementioned series and match the button combos closely.

But what's instantly apparent in the throws is that each character is equipped with a single powerful attack that'll knock your opponent with satisfying ease into the enclosing gate or barbed-wire fence. That's right, no ring outs. No floating, gravity-

defying virtua fighters sailing out of the ring at the wrong moment. And this same blow, if executed effectively, will blast off your opponent's armor, his or her health indicated by a small body meter in the upper hand corners of the screen. Strategy is based on Sega's three-button attack system of punch, kick, and defend buttons, and retaining as much armor as possible; when armor is knocked off, you can be rendered utterly vulnerable to a mere three-hit combo. Effective counter attacks, and a self-congratulatory replay (three successive perspectives replaying a throw), add to your opponent's humiliation.

The big letdown, however, is not in the simplistic gameplay, superficial fighting strategy, or mediocre backgrounds: it's in Sega's strained character designs: Raxel, Jane, Picky, Sanman are undeniably trendy and conclusively uncool (not to mention oddly un-viperish). They lack the artful, graceful movements of VF2's Lau, Sarah, or Pai. In essence, Fighting Vipers isn't a step forward in the fighting genre and it is a stretch to say that this game matches — even at best — the qualities of its predecessors Rating: ***



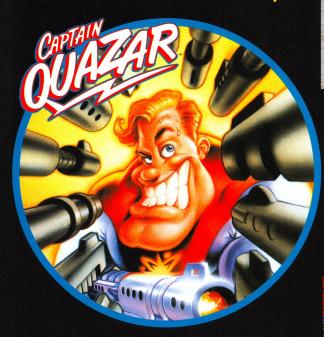
nt with his fing attack



ezes it between her thighs and flins her opponent (above)



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Outstanding, action-packed gameplay. Simultaneous two-player shooling with tons of targets to blast. Explore 10 big levels on 3 crime-inlested planets. Each world challenges you with new missions and a bery of drug runners, terrorists and felons.



rating arcade

Arcade

INDY-SCRIBABLE

Indy 500 **Publisher: Sega** Developer: Sega AM2

Rating: ***

With a view of capitalizing on its nearly unchallenged and successful eight-player drivers, Sega's AM2 added yet another gem into its racing crown. Indy 500, the title based off the famed Indianapolis raceway. simulates fast-paced Indycar racing in a manner unique to the real experience, adding a few features that make this kind of game almost untouchable by the competition.

Sega's racing line-up seems almost complete with Daytona USA and Sega Rally respectively filling the niches of multiplayer road racing and offroad racing. And then comes Indy 500: Yet another "theme" for driving fans to buckle into. This title is the fastest simulated driving experience ever. The feel of speed, driven by the Model 2B Board, rips 60 frames across the screen per second, and is coupled with the 39-inch screen as well as a devilish sense of acceleration and power. The feel of speed is especially keen when caught in monster pile-ups; you redirect your car. punch the pedal, and well, it's like that guy in the Maxell ad: an experience.

The pile-ups, that's another thing. Be careful, they hurt, and they're cool; they essentially torque the sense of competition up a notch, and make up for the lack of powerslides so pertinent in Daytona and Rally. But because powerslides aren't as much a phenomenon in real Indycar racing, you don't get as much of them. This is unfortunate because the added element of pile-ups and enhanced speed in Indy don't really make up for Daytona's brilliant control. And the control isn't bad, it's very manageable - you hit the brakes and they respond, but the skill level and learning curve have been eased, and for hard-core gamers, they'll be able to master this racer depressingly quickly.

But don't be mistaken, of the three tracks - Indy 500 Oval (easy), the 2.89 mile Highland Raceway (intermediate), and Bay Side Street (difficult) - both Highland and Bay Side are challenging, and with the eight-player capabilities, this title is a sure bet. Manual and automatic transmission as well as four perspectives are added features. This title is as good, in its own way, as any Sega racing game so far.

Powerslides are not extreme nor do they happen too often, but the day. With the extra-wide 39 inch screen, Indy 500



While using your sawed-off shotgun in Crypt Killer, you'll meet this boss

Komani's new Crypt Killer definitely has the action, variety, good looks, and tough bosses that will make people pump quarters into it without a beat, but it hardly stands out as a unique or atypical game. In fact, besides the freemoving, hand-held sawed-off shotgun, enabling pump-handle reloading (a nice element), this game blends in quite well with the pile of new laser-gun shooters with little distinction.

Throngs of pathetic zombies and cannon-fodder spring up for

easy killing, and bosses, including a few based on figures from Greek mythology, are much tougher. And the ending is quite neat too, it's just that you may not be terribly excited about getting there. Rating: **

Cyberbots **Publisher: Capcom Developer: Capcom**

Cyberbots, the new 'mech fighting game from Capcom, lacks the charm, craze - and gameplay for which the company is known.

It's a fighting game with robots. What an angle! And it will probably please most the group of gamers under 12 years old.

In the game's 10 levels you choose one of 16 'mechs who hash each other with special weapons (high powered chain saws, mechanically apt limbs, etc.), fly around using boosters, shoot cool projectiles, and basically fight head-to-head in smooth liquidy animation like so many other recent Capcom fighting games.

Cyberbots wouldn't be such a pathetic effort if the gameplay wasn't so painfully poor, but there are few of the combo moves found so plentifully in Street Fighter and Marvel Superheroes, and when the bots do attack, it looks like a bad disco contest. These colorless mechs just don't have the moves. Rating: **

Dangerous Curves Publisher: Taito Developer: Taito

With the continuing success of Suzuka & Hours and the recent killer Cyber Cycles taking the spotlight, a high standard was set for biking sims. Dangerous Curves meets the mark, adding a few elements of its own.

One cabinet has a cycle and a car (automatic or six speed manual) which are placed side by side and use different monitors. By adding an extra cabinet, up to four can compete simultaneously.

provides great realism

The gameplay and graphics are solid, but don't vary enough, which may not spark the actionreaction quality needed to keep arcade players plugging quarters; in addition to this, the first level is extremely long and uses staid backgrounds. The most unfortunate quality of this otherwise plush racer is that you're unable to crash, and power slides are at a minimum.

Besides the six extensive stages and rendered polygon backgrounds, the mediocre set of



Dangerous Curves isn't all that dangerous, but it's fun to play

rating arcade

sharp turns and sober opponents leaves this game an enjoyable but disappointing attempt. Rating: ***

Five A Side Soccer Publisher: Konami **Developer: Konami**

This is soccer made simple. Konami's new Ultra Sports line is made for you to drink beer in one hand and play indoor soccer with the other. What fun.

Designed as a tabletop game with an overhead view, this simplistic approach to indoor soccer has a pleasing and fun affect. Using the strangely nowpopular trackball, Five A Side Soccer enables your players to kick the ball using a single button and then (using the special techniques mode) curve your shots as you spin the trackball left or right around players or goalies. Once burned by an offensive player, catching up is made easy as the trackball accelerates your running abilities with little realism but with maximum gameplaying effect.

The three courses are enclosed (like indoor soccer), so the ball never stops moving, and while the sprite-based graphics are, at best, simplistic, they do the trick, which is to make the sport accessible and competitive.

For what this is. Five a Side Soccer is a fun and playable game that'll make recreational arcadegoing more enjoyable. Rating: ***

LineDrive Baseball Publisher: Futureline Communications **Developer: Futureline**

Communications

This is the ultimate noninteractive game, representing all of the absolute worst qualities in bad game design, playability, graphics, and cabinet displays.

You'll probably never play this miserable aberration, and if you actually see it in an arcade, you'll be sure to shun it like the plague based on its terrible looks alone. The idea here is to "play" all of the great retired sports heroes -Yogi Berra, Carl Yastremski, Whitey Herzog, etc. - by pitching (aim into a drawn-in box that floats above the plate and click a button) by using the simple statistics of the players' batting averages, and the kind of pitch to determine a hit, strike, or whatever. Old black-and-white video footage shows you where the ball lands, in a mitt or on the green. You never feel like you've played anything close to baseball because you never actually get to sten up to the plate. This is the perfect example of

how not to make a videogame.

and it only receives one star out of kindness and because we couldn't give it any lower. Rating: *

NHL Open Ice Hockey Publisher: William

Bally/Midway **Developer: Williams** Bally/Midway

What's very apparent upon first glance is that NHL Open Ice Hockey is actually NBA Jam on ice. This title fills the big hockey arcade void left open since.. well, air hockey.

Very few hockey games have made it big, and never has any hockey game previously been licensed as NHL Open Ice is. So now desperate ice hockey fans can play that "northern sport" with all the slapping-checkingfighting goodness they've always wanted to because this puppy has NHL licensing, a full roster of current players, stats, rosters, flaming nucks (and goals), higheaded players, and two-on-two play (with little slowdown), which makes this perfect for the arcade.

Little additions, like using Pat Foley voice for commentating, and having strategy based on the use of the turbo buttons as well as on combos and to accelerate and enhance play, add to the game's depth and playability.

The instructions that pop into your screen are good for newbies, and the overall action and learning curve is good. Williams rarely makes a bad move, and Open Ice is testament to its conservative but consistent quality games.

Rating: *** Orbatak

Publisher: American Laser Games **Developer: American Laser Games**

This is the kind of simple. challenging game with which arcades used to be packed. No, it's not old-fashioned nor dull. Orbatak is a time-based, innovative "fighter" using spheres controlled by your single track ball.

The idea is to bash your orb (a sphere) into the opposing orb until it blows up. Enclosing bumpers (walls) are there to bounce you off to gain speed, and there are teleport stations, energizers (which replenish energy when very damaged), or, in latter levels, you can use boosters which throw you into the air (and by landing on the opponent from the air, you cause massive damage). There's three arenas per level, three levels, and a tough smart boss named Grendell who'll whoop you're ass if you're not careful.

American Laser Games should be congratulated on Orbatak; it's a refreshing change from the

Arcade



Yes, the blaster is kind of big, we'll admit that. But it rocks, and Ironman (left) is just one of 10 Marvel characters you can play

MARVELOUS

Marvel Superheroes

Publisher: Capcom Developer: Capcom

Capcom's done it again. Marvel Superheroes, a quality fighting game on par with Street Fighter Alpha, and using Wolverine, Magneto, Psy-locke, Juggernaut from X-Men: Children of the Atom, blends loads of combo-powered attacks with liquid-smooth animation to contend with some of the best fighters out there

No, it's not a polygon-filled, texture-mapped wet dream. And in that, MSH is a refreshing, easy-to-play relief from the polygon madness that'll make up the bulk of future fighting games. But if you like Marvel characters (and we do), then you'll love this: Spiderman, Hulk, Captain America, Shuma Gorath, Blackheart, and Ironman make up the rest of the cast, each with their own special moves, projectiles (Ironman packs by far the most), and multi-combo hits in 12 levels, battling against both subbosses and a final boss.

It's more of the same from Capcom, but the gameplay, animation, and characters are all good, solid fun. Rating: ***





Hulk is powerful but slow (top). Captain America (above) nacks Magneto

maddening outpour of driving, fighting, and shooting games. Rating: ***



in Orbatack your opponent runs away from your attacking sphere

Ultimate Hockey Publisher: Konami Developer: Konami

Essentially an exact duplicate of Konami's own Five A Side Soccer, except using hockey players and an icy white background instead of a green one, Ultimate Hockey is a simplistic and competitive overhead hockey game for the crossover foosball-hockey fan.

The five-on-five competition doesn't clog the screen with too many players, and it makes accessible a lot of what's good about hockey: to be able to drive



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We're talkin' GAMING HEAVEN! **Directions.** Fill in the Mystery Word Grid with words going across that spell out the Mystery Word down the side. Hint: use the Mystery Word Clue.

In the future. There will be four more puzzles at \$2.00 each and one tie-breaker at \$1.00 which will be sent to you by mail. You will have 3 weeks to solve each puzzle. We don't know how many will play but typically 55% will have the highest score possible score to Phase I, 43% to Phase II, 36% to Phase III, and 32%. to Phase IV. The tie-breaker determines the winner. If players are still tied they will split the value of the grand prize they are playing for.

Muretown		н				×
Mystery			E			T E
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WORD LIST and LETTER CODE chart

	MYSTERY W	ORD CLUE:	
CRUSHI	SCOREH		CHASEP
STOMPT	STANDR	PRESSE	DREAMO
BREAKZ	PUNCHS	SPRAYC	TURBOV
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rating arcade

down the ice, hammer slapshots and pound opponents into the walls (without the pain). Your player can cross the ice in a matter or seconds, and doesn't switch off to who's closest to the puck, like other hockey games. Choose strengths like speed, good goal keeping, strong passing or shooting, or special techniques.

The trackball enables you to slap and spin (using the special techniques mode) your shot once released, by running the trackball left or right, taking just enough skill for you to drop in the right amount of quarters to get it right. Ratine: *x+c

Ultimate Mortal Kombat Publisher: Williams Bally/Midway Developer: Williams Bally/Midway

This is a little tricky. Mortal Kombat III came out a few months ago and already has been given at least one upgrade, though it's not a new game. Williams then issues this title, "Mortal Kombat 3.5."

For all practical purposes Ultimate Mortal Kombat is an upgrade to MK3, its biggest difference being that it features four "new" characters. While armed with their own special moves and attacks, these new characters use the same graphic sets as previous characters: Reptile (who resembles Scorpion and SubZero), Kitana (who mirrors Melina and Jade), Scorpion, and Jade.

To be fair, there is none of the *MK* quality, detail, or gameplay missing, just about everything you want is there.

Despite this, the title is simply in the arcades to keep the lore intact and the players humming, and in that, Williams is doing its job. But the fun of MK is slowly careening down the long slope so familiar to those die-hard Street Fighter fans.

Rating: ***

Virtua Fighter Remix Publisher: Sega Developer: Sega AM2 Virtua Fighter 1.5, the apology for

Virtua Fighter 1.5, the apology for the miserably rushed Virtua Fighter on the Saturn, has now arrived as the first arcade game on Sega's new Titan architecture.

The hullabaloo about Remix is not that it's in the arcades (we've been playing VF since 1992), but that Titan enables the virtually seamless interchange from Saturn to Titan systems; is less expensive for arcade owners to buy, which makes it more available in bowling alleys, liquor stores, etc.; and works off both cartridge and CD-ROM. In other words, gamers will be able to play the newest Sega titles in more

arcades and very soon after, they can play the exact same game at home on their Saturn. Not bad.

Remix does feature improved movement and texture-mapping over VF, and the enhanced look and feel of the original eight characters is fully intact. Additionally, the Tournament function enables a championship of up to five games (three out of five to win), over the previous two out of three mode.

The drawback of all Titan games, including Remix, is that the technology isn't as advanced, fast, or powerful as Model 2B (Indy 500, Virtua Fighter 2, or Virtua Cop 2), and these games are really like playing fast Saturn games in the arcade. Rating: **x**

Zombie Raid Publisher: American Sammy

Developer: American Sammy As the title suggests, Zombie Raid is a laser-gun shooter wherein players scroll through graveyards, night-time scenes, and spooky, old-fashioned Halloweenish scenarios, shooting creepy looking enemies.

There charming aspect of this game is its cartoony characters and story. Bodies are being kidnapped from graves as part of a mad scientist's evil scheme, and Edward the detective must save himself and the world by shooting them with a sawed-off shotgun.

There's got to be a certain hook to all games. And since this game has a rooted machine gun, less fun to use than a free-standing gun, nothing more than average graphics, and a game design resembling your average side-scrolling console game, it's just like so many average games that fill up the arcade.

Zombie Raid isn't terrible, it's kind of fun, but compared to the current shooter crop, it's lacking. Rating: ★★

SORRY!

No new games were made available for review this month on the following systems

Neo-Geo

Sega CD

Virtual Boy

Arcade



The action is twice as fast as Virtua Cop, and the bad guys come in more shapes and sizes. Here, an assassin cracks your screen

BULL'S-EYE

Virtua Cop 2 Publisher: Sega Developer: Sega AM2

In a laser-gun shooter like Mad Dog McCree or Area 51, you've got your gun, you aim, and you shoot, and shoot and shoot. This simple challenge will never die, having helped arcades make a mint ever since Day One. Virtua Cop 2 is no different than this basic point, aim, and shoot concept, with one exception: the action, enemies, variation of levels and backgrounds, and the fun are all so improved over Virtua Cop 1, and in all the right places, that no other laser-gun shooter comes close to it right now.

While the first mission's chase mission is old hat (seen in the likes of Lethal Enforcers and Operation Thunderbolt), VC2's sharp, antiseptic design, 60 frame-per-second animation (twice that of its predecessor thanks to the speed of the Model 2B Board), and well-timed shooting action is top notch. What sets this title apart from other shooters is its sense of timing and pacing; multitudes of terrorists peppered with civilians, pop, roil, and jump out to plug you, and once a round is done, the camera pans up or sideways just slow enough for a breather, and then starts the party again. Among the three missions, the ocean liner, and especially the final one, in which you stalk terrorists in their underground train, are particularly pleasing.

The shooting system remains the same, making use of the wide-aim reticle, which acts merely as a guide, enabling players to practice their skill and actually aim, rather than shoot wherever and whatever they want i.e. Crypt Killer. And of course, the familiar stand-up cabinet is set for two players who can reload their handguns by aiming off screen

The only improvement Sega could make at this point is a game redesign enabling free movement, rather than preprogrammed battling areas. Still, it's a hell of a game.

Rating: ***





leads the way (left); the medium and expert levels are challenging (above)



CONTEST! WIN A VIRTUAL

Virtual Boy, Nintendo's 32-bit video game system features phase linear array technology (extra-fancy sounding, but it really applies), digital stereo sound, two high-resolution visual displays (one each for the right and left sides of your brain), and 3D graphics that totally immerse you in the game. Coming soon: stereo headphones and Game Link® for head-to-head action (sounds almost illegal).

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blah. Selection: Winners will be selected by 2/15/96 and notified by mail or phone. No purchase necessary.

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32-bit gamer's guide

Tme

Your quintessential next generation gaming guide

PURUSHER

NG RATING

s 32-bit gaming eases from cult to mainstream status, NEXT Generation presents the first of what

will become a regular monthly feature: a reviews reference guide to every 32-bit (and Jaguar) game released. Unfortunately, there is not space to include PC games in this listing.

Where a game name is accompanied by the suffix (Japan), it means the game (at press time) is only available as a grey import from Japan. These games will not work on US machines unless equipped with an adapter cartridge, such as the Datel Universal Adapter (contact Cybergames (415) 753-5860).

Tirrue	PUBLISHER	NG RATING
PlayStation		
A Train	SCE	***
Aquanaut's Holiday (Japan)	ArtDink	****
Arc The Lad (Japan)	SCE	****
Cosmic Race (Japan)	Neorex	*
Crime Crackers (Japan)	Sony Entertainme	nt **
Cyber War (Japan)	Coco Nuts	**
CyberSled	Namco	**
Destruction Derby	Psygnosis	****
Dragon Ball Z (Japan)	Bandai	**
Gunner's Heaven (Japan)	Media Vision	****
umping Flash! (Japan)	SCE	****
Kileak The DNA'	SME	***
King's Field (Japan)	From Software In	c. **
Mobile Suit Gundam (Japan)	Bandai	**
Motor Toon GP (Japan)	SCE	**
Philosoma (Japan)	SCE	**
Power Baseball (Japan)	Konami	*
Raiden	Seibu	**
Rayman	UbiSoft	****
Ridge Racer	Namco	****
Tekken	Namco	****
Battle Arena Toshinden	SCE	****
Total Eclipse Turbo	Crystal Dynamics	**
Winning Eleven (Japan)	Konami	****
WipeOut	Psygnosis	****
Saturn	,,,	
Astal	Sega	***
Battle Monster (Japan)	Naxat Soft	**
Bug!	Sega	***
Clockwork Knight	Sega	***
Clockwork Knight 2 (Japan)	Sega	***
Dark Legends (Japan)	Data East	**
Daytona USA	Sega	****

Deadalus (Japan)	Sega	***
Gotha (Japan)	Sega	***
Gran Chaser (Japan)	Sega	
ast Gladiators (Japan)	Kaze Co	****
Myst	SunSoft	***
Panzer Dragoon	Sega	****
Pebble Beach Golf Links	Sega	***
Riglord Saga (Japan)	Sega	***
Shinobi Legions (Japan)	Sega	***
Street Fighter: The Movie	Acclaim	***
Tama (Japan)	Tengen	**
Virtua Fighter	Sega	****
Virtua Fighter Remix	Sega	****
Virtual Hydlide	Atlus	**
Virtual Volleyball (Japan)	Imagineer	*
World Series Baseball	Sega	****
Worldwide Soccer	Sega	***

TITLE	PUBLISHER	NG RATING
Virtual Boy		
Mario Smash	Nintendo	***
Mario's Dream Tennis	Nintendo	***
Red Alarm	Nintendo	*
Space Pinball	Nintendo	*
TeleRoboxer	Nintendo	***
3DO		
Alone In The Dark	Interplay	***
Burning Soldier	Panasonic	**
Cowboy Casino Poker	IntelliPlay	*
Crime Patrol	American Laser Ga	mes **
D	Panasonic	**
Demolition Man	Virgin	**
Doctor Hauzer (Japan)	Panasonic	***
Family Feud	GameTek	***
FIFA International Soccer	EA	****
Flashback	U.S. Gold	***
Gex	Crystal Dynamics	****
Ghost Hunter	Matsushita	***
Guardian War	Panasonic GameTek	***
Hell: a Cyberpunk Thriller Icebreaker	Magnet Interactive	
mmercenary	EA	***
Iron Angel of the Apocalypse		***
Jammit	Street Sports	**
John Madden Football	EA	****
Lemmings	Psygnosis	****
Mad Dog II: The Lost Gold	American Laser Ga	
Mega Race	Mindscape	**
Microcosm	T&E Soft	**
Myst	Panasonic	**
Novastorm	Psygnosis	*
Off-World Interceptor	Crystal Dynamics	***
Panzer General	SSI	****
Pretty Soldier Sailor' (Japan)		**
Quarantine	GameTek	***
Real Pinball Rebel Assault	Panasonic Lucas Arts	*
Need for Speed	EA Arts	**
Road Rash	EA	****
Samurai Shodown	Crystal Dynamics	***
Seal of the Pharaoh	Panasonic	**
SHADOW	Tribeca Digital Stu	
Shanghai: The Great Wall	Activision	***
Shock Wave	EA	**
Operation Jump Gate	EA	***)
Slam 'N' Jam '95	Crystal Dynamics	****
Slayer	SSI	**
Soccer Kid	3DO	**
Space Hulk	EA	****
Space Pirates	American Laser Ga	
Star Control II	Crystal Dynamics	***
Starblade	Panasonic	**
Station Invasion	Club 3DO	***
Strahl Super Street Fighter II Turbo	Panasonic	****
Super Wing Commander		****
Supreme Warrior	Origin Digital Pictures	**
Syndicate	EA Fictures	****
The Daedalus Encounter	Panasonic	***
The Doraemons (Japan)	Shogakukan	*
Theme Park	EA	**
Trip'D	Wrap	***
True Golf Classic (Japan)	Panasonic	***
Jitraman (Japan)	Bandai Japan	**
VR Stalker	American Laser Ga	
Way of the Warrior	Universal Interacti	

Wing Commander III

TITLE	PUBLISHER	NG RATING
World Cup Golf	US Gold	**
Yuu Yuu Hakusho (Japan)	Tomy	*
Zhadnost: The People's Party	Studio 3DO	***
Jaguar		
Aircar	Midnite	***
Alien vs. Predator	Atari	****
Blue Lightning CD	Atari	***
Bubsy: Fractured Furry Tales	Atari	**
Burn Out	Atari	***
Cannon Fodder	Virgin Interactive	
Checkered Flag	Atari	**
Club Drive	Atari	*
Doom	Atari	***
Double Dragon V	Tradewest	**
Dragon	Atari	***
Fight for Life	Atari	**
FlipOut!	Atari	***
Hover Strike	Atari	**
Iron Soldier	Atari	***
Kasumi Ninja	Atari	*
Pitfall: The Mayan Adventures	Atari	****
Power Drive Rally	Time Warner	***
Rayman	Atari	****
Syndicate	Ocean	****
Tempest 2000	Atari	****
Theme Park	Ocean	**
Troy Aikman Football	Williams	**
Val d'Isere Skiing	Atari	**
White Men Can't Jump	Trimark	***
Wolfenstein 3-D	Atari	**
Zool 2	Atari	***
32X		
Brutal	Gametek	***
Corpse Killer	Digital Pictures	*
Cosmic Carnage	Sega	*
Fahrenheit	Sega	**
Knuckles Chaotix	Sega	**
Metal Head	Sega	**
Mortal Kombat II	Acclaim	***
Motocross Championship	Sega	***
NBA Jam Tournament Edition		***
Night Trap	Digtal Pictures	*
Pitfall: The Mayan Adventures		***
Quarterback Club	Acclaim	***
RBI '95	Time Warner	**
Shadow Squadron	Sega	***
Slam City with Scottie Pippen		**
Star Wars Arcade	Sega	***
Super Afterburner	Sega	***
Super Space Harrier	Sega	***
Tempo	Sega	**
Virtua Fighter	Sega	****
Virtua Racing Deluxe	Sega	***
World Series Baseball	Sega	****
WWF Raw	Acclaim	**
Zaxxon's Motherbase 2000	Sega	*
36 Great Holes	Sega	***

For your information

- *** Excellent ★★★ Good ★★ Average

NG Picks for

Once again **NEXT Generation** brings you a list of the very best titles available for each of the major home entertainment systems as tested and rated by the experts. When you're looking for the latest information on the best titles of today and tomorrow, turn to the pages of **NEXT Generation**, and when you're looking to find the hottest games in a friendly atmosphere, be sure to head to the Electronics Boutique nearest you.

Dec. '95

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PlayStation

Warhawk (Sony) — One of the strongest releases yet for the fledgling PlayStation, Warhawk is a special effects warehouse. In level after level of high-action play, players are confronted by such diverse visual images as an erupting volcano, bolts of lightning at night, and giant pyramids. The game plays as good as it looks, and will be a valuable addition to any PlayStation library.

Rating: ***

Saturn

Wing Arms (Sega) — This is a fast-paced 3D, action-packed shooter with a WWII feel. Wing Arms has taken the classic flight simulator, taken out everything that's not fun, and crafted a fantastic arcade-style shoot-em-up. Controls are smooth and simple, but the game has enough difficulty to satisfy even the most die-hard veteran. One of the biggest Saturn titles yet.

Rating: ***

Jaguar

Power Drive Rally (Time Warner Interactive) — Top-down racing at its best, *Power Drive* features a huge variety of courses and competition — races, time trails, and skill driving. The graphics are extremely detailed and the control is awesome — power slides galore. The game features a variety of track conditions and locations across three continents — Europe, Africa, and North America. The best driving game on the Jaguar, and one of the best overhead driving games since *Micro Machines*.

Rating: ***

3D0

Bladeforce (Studio 3DO) — Studio 3DO gears up its production with the addition of this addictive 3D shooter to its release lists. Players are treated to a completely open playing field that is filled with mega-violent enemies and high-tech weaponry. Slick virtual camera technology and a strong storyline round out this sure hit.

Rating: ****

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PC

Command and Conquer (Origin) — Command and Conquer is perhaps the most playable realtime strategy game ever made. Taking dramatic leaps both in graphics and storyline from their original Dune II engine, Westwood has made a game that is destined to be a classic. The fantastic multiplayer support enables you to take on your friends in vicious head-to-head competition that is a step above anything seen before. Addictive to the extreme.

Rating: ****

Genesis

NHL '96 (EA Sports) — The top of sports action for the 16-bit systems. *NHL* '96 has all new spin moves and power stops along with a whole team of hyper-tough opponents. Game stats are surprisingly accurate and add an element of realism to an already fantastic game. Simply put, this is the best hockey game ever made.

Rating: ****

Super NES

Donkey Kong Country 2 (Nintendo) — With all of the original's excitement, *Donkey Kong Country 2: Diddy's Conquest* picks up where the first left off and carries the proud tradition of *Donkey Kong* through a whole new adventure. In one of the biggest games to hit the Super NES since the original, *Diddy's Conquest* is every bit as good if not better than *DKC* with plenty of new surprises for even the most die-hard fan. This sequel lives up to the first.

Rating: ****

Platinum Pick

Virtua Fighter 2 (Saturn, Sega AM2) — After the huge advances made in *Virtua Fighter Remix*, it's no surprise that AM2's true sequel, *Virtua Fighter 2*, is an all-around powerhouse. A score of new moves and the addition of two new fighters ensures that even veteran gamers will get plenty of gameplay out of this one. The game's visuals are stunning, and each movement or attack delivers a feeling of raw power. A must for every gamer's collection.

Rating: ****

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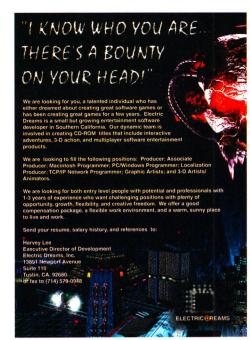
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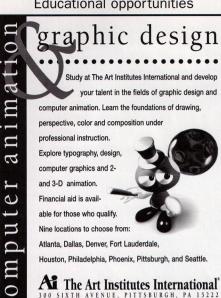
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Letter rip — Send your thoughts our way

any congratulations to Sony! It just nailed the launch of PlayStation. I work at Babbage's in Seattle, we had about 50 systems in and by the end of the day, we had three left! Nearly surpassing what Saturn had done in three months!

Working at a software store, I realize one important thing about games. It's not about how big/popular a movie is, not about any trend, but the quality of the game. Gamers do know what they're looking for when they come into our store. They don't waste any time on Judge Dredd or Batman Forever, and they don't need to ask about how good Chrono Trigger is, they just buy it! Part of the reason why Sony had such a successful launch is because they have games that gamers actually want to play with the system, such as Toshinden and Ridge Racer.

I've been a proud owner of a PlayStation for several months now and I've enjoyed the



Saturn's price drop to \$299 is guaranteed to increase its sales. But can Sega catch up with Sony?

supreme quality of games from Japan. I hope that this trend of great titles will continue for the US machine and that SCE doesn't drop the ball.

nicotin@u.washington.edu

NEXT Generation has been criticized for its alleged bias for PlayStation over Saturn and other 32-bit machines. However, when PlayStation sells more machines in just one weekend (approximately 100,000, including pre-orders, were sold at launch) than Saturn sold in more than three months (50,000 is a good estimate), our standpoint is not called "bias," it's called "reality."

PlayStation has rocketed ahead of Saturn in the 32-bit race, and is closing fast on 3DO for total numbers sold. How Saturn's new \$299 price point (and rumors of a \$199 3DO machine on the way) will affect the situation has yet to be seen.

hen I first read your article on Amiga's future in NG 2, I began to follow up on every piece of information I could find. Then, when I read your article on Escom and how it will decide the future of Amiga, I began to think about why Commodore went out of business in the first place. I own an Amiga 500, and I think that Escom should really bring back the only computer which can truly run two programs simultaneously. Not even IBM or Apple can do that.

Mike Santos Palmdale CA.

Actually, IBM and Apple can do that. As for Escom, it's still struggling to make some use out of its Commodore technology. The company has the advantage of a large loyal customer base in Europe, but the outlook seems grim for the US. The 32-bit consoles are now available with more power than the CD32 and A1200 systems — and they cost

less to boot. It looks like Escom is leaning toward a more business-oriented relaunch of the Al 200 machine. If the company intends to bring the Amiga back as a force in the entertainment industry, it will have to sink a lof money into developing a chipset more capable of handling 3D games than the dated system in today's units.

efore I begin writing, I would like to say that you have a great magazine. I have been a loyal follower of NEXT Generation since issue #I and continue to look forward to great issues in the future.

However, one thing disappointed me about your October '95 issue. In the finals section, you reviewed Virtue Fighter Remix. Although it's a great game, I do not think it deserves five stars. It is not an original game by any means. It is basically Virtue Fighter with some tweaking and a face-lift (literally).

Therefore, I don't believe it deserves your highest mark. With a few minutes at an arcade, I judged it to be good, but under many other fighting games. But it certainly is not revolutionary as the genre already exists.

David Wheateroft Maynard MA.

It's a fair point David, but we've given a lot of thought to the review of Virtua Fighter Remix, and we remain firmly behind our rating. The original VF, despite low polygon count and patchy performance, delivered enough rapid gameplay, well-designed characters, and complex movement to earn our four starrating. Once we had taken a look at the vast improvements

made in the Remix version, we knew that we had a game worthy of five stars. We recommend you give the game more than a few minutes, and give it a chance to impress you like it did us.

egarding your article on whether or not videogames screw you up. Please read and comment on the enclosed news clip: [Reprinted from an article by Anna Farneski of the Courier-News of New Jersey.]

SUSPECT CALLED CRYING "DISTURBING"

A 23-year-old man was charged Monday with murdering his girlfriend's 15-month-old daughter by pummeling the toddler's abdomen and back until she stopped breathing.

James Armour told detectives that Nyasia Nowell's cries annoyed him shortly before 4 p.m. Thursday, while he played videogames at the Ivory Tower Motor Inn in Green Brook.

"He told us he was playing Sega on the TV and the baby was crying and it was disturbing him and he wanted her to stop." Somerset County Prosecutor Nicholas L. Bissell Jr. said. The child had stopped breathing by the time help arrived and was later pronounced dead at Somerset Medical Center. Bissell said there were no obvious physical signs of abuse.

An autopsy conducted Friday at the state Medical Examiner's Office in Newark showed she died from "blunt trauma" injuries to the abdomen, Bissell said.

> Raymond Zaborowski Piscataway, NI

corresponding

The capacity for violence lies not in the books one reads, in the movies one watches, nor in the games one plays, but in the individual. The person who is capable of injuring a helpless child (or anyone for that matter) is disturbed, and is just as likely to be set of by watching a lodie Foster film, playing Dungeons and Dragons, or watching Senator Lieberman on C-Span as they are to be enraged by playing videogames. If the argument that prolonged exposure to electronic violence leads to real-life acts of cruelty were true, the police would need to set up protective walls around the NEXT Generation offices to protect passers-by from the constant hail of bullets fired by editors who are exposed to these games 18 hours a day, 364 days a year (we get Christmas off). By suggesting that criminals commit antisocial acts for reasons associated with the media in which they come in contact, we are offering them an excuse to shirk responsibility for their own actions.

We also received comments about some of the more physical effects of videogaming, including a few suggestions that seem a touch...extreme.

n response to your Repetitive Strain Injuries article, I have a suggestion for the game companies.

As pointed out in the article (NG 10), there is a possibility that RSI would occur on gamers who play videogames nonstop for hours on a daily basis. As responsible businesses, game machine companies could take preventative measures to end the speculation. My suggestion is to build in a timing device that would shut off the unit for five to 10 minutes after two hours of continuous play. The device would return use after the resting period, thus forcing gamers with weak selfregulating powers to rest.

Mark Jones Seattle, WA

Few people play videogames to the extent that RSIs would be a real risk. You have to play past the point of your hands being extremely painful to incur any injury. Anything can be abused, and it should not the hardware manufacturers' responsibility to ensure its product is not misused by the people who buy it.

Anyone old enough to live by themselves should be smart enough to stop playing before their hands wither; and it is the responsibility of parents or guardians — not Nintendo or Sega — to make sure children don't overdo it.

his is in response to the negative letters in NG 09 regarding the Sam Tramiel interview. First, if you don't like the games available for the laguar, fine. Nobody is going to force you to buy any and you can enjoy whatever system you own. However, if you are going to blast the laguar for its hardware then at least get the facts straight.

Doug Sutter seems to think that because the Jaguar has a 68000 chip that it is not 64-bit and is therefore not as powerful as the Saturn, and he compares Panzer Dragoon and Tempest 2000 as proof. According to John Mathieson, who designed the Jaguar, the memory interface, object processor, and blitter are all 64-bit. You don't need a 64-bit chip for sound, addressing, timing, or reading the controller which are all things the 68000 is for (although Leonard Tramiel [Sam's brother] says the controller should be read with the GPU).

As for the games, they are not an indication of what the hardware is capable of and as Panzer and Tempest are two different games the comparison is pointless. And as for Robert Rhode's comments as to the Jaguar being under-powered compared to the PlayStation and Saturn I, unlike Mr. Rhode, don't have access to development machines so I have been unable to write any code to prove the superiority of any machine, so I have to rely on the specs provided by the manufacturers which put the laguar ahead of the Saturn and behind the PlayStation. The batch of CD-based games that are slated for release will bear this out.

Nicholas Steele ndn@IslandNet.com Well, OK. But when are we going to see games that are a real "indication of what the hardware is capable of?"

was reading your #10 issue, and someone wrote in accusing your magazine of being biased toward PlayStation. He said, "This flaw is your love of Sony and its PlayStation." He went on to show a couple of points to back up his story. Then your magazine said, "Don't worry. We're not in Sony's pocket (or anyone else's for that matter)."

I enjoy your magazine a lot but I have to agree with the letter you received, accusing your magazine of being biased. When I got my American PlayStation, to my surprise, I saw a your subscription card. How can you



While NG includes offers with PlayStations, we're also working on deals with Sony's rivals

guys claim to be unbiased and put your subscription card inside the PlayStation box? Please correct me if I am wrong.

> Tony Alphier Goon200@aol.com

Good question. First off, all of our business development (sales) is handled by a department that has no relationship with our editorial department. We are not influenced by any deals they make, or ads they sell in the magazine — you only need to look at the harsh reviews we've given to some products advertised in our magazine to know that (try this test with some other magazines).

As for the subscription cards themselves, you have to agree, any new 32-bit system buyers are exactly the kind of people we're trying to reach with NEXT Generation, and it's a great way for us to introduce the

magazine to new readers. We will also be putting subscription cards in the boxes of Panasonic 3DO players and in software and accessories from Namco, Mad Catz, American Softworks, and Digital Pictures, with many other similar deals (including other hardware manufacturers) currently in negotiation.

et's cut the bullshit: The 3DO's worthless until M2 arrives. The Jaguar is made by Atari, 'nuff said. U64 suffers from a severe case of vaporware. Sure, we'll wait...

That leaves the Saturn and PlayStation slapping each other like a couple of street punks. The final verdict My Pentium with 16 MBs of RAM and a 3D-accelerated video card can kick all your asses. To everyone who wants to own a next generation system, buy a PC. PCs were here before ColecoVision, and PCs will be here long after the Ultra 64 becomes a door stop.

Sebastion Ulyn South Bend, Indiana

You bring up some good points but neglect to mention that your PC, which can play games as well as a Saturn or PlayStation, costs about 10 times as much as either console. And, you can't play PC games from your couch.

hat do you think about

Diehard Game Fan

printing all that racist

bullshit in their mag?

Mark Weaver Allston, MA

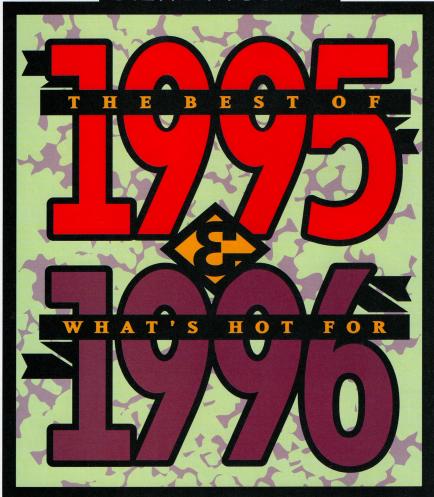
NG takes no joy in gloating at another magazine's misfortunes. We know the *DieHard* guys, and we know that they feel as bad as anyone about this freak accident.

lease ignore the letter sent by the moron that suggested that EGM looks better than NG. EGM looks like (and is) utter crap.

Charles Wiltgen
cwiltgen@fancymedia.com

The views expressed in **NG** letters do not necessarily reflect the views and opinions of **NG** magazine or Imagine
Publishing. Yeah. Right...

NEXT MONTH



NEXT Generation #13 on sale December 19, 1995.

Wise souls of gaming expertise and other indulgent types have already subscribed.

To find out how you too can save money and guarantee your early copy as well as a special subscribers' only tips and strategies section, turn to the insert between pages 32 and 32.





Diddy's back and better than ever.

Fasten your seat belt.

This monkey's coming full throttle. Donkey



Torrential rain, bloodthirsty pirates, and now your ship is sinking...have a nice day.



Dixie twirls her ponytail to fly chopper style talk about a buzz cut!

Kong Country 2[™]. Diddy's Kong Quest[™]. Sleek, stylish and fully loaded. With

ACM graphics, 32 megs and so many new levels, it even outperforms last year's model. But don't take our word for it. Let Diddy take you once around the park—sunken pirate ships,



Or take his new pal Dixie for a

spin - literally. This chimpette flies! There are other special

moves too, like the Buddy Toss (please kids, don't try this at home). We even threw in a bunch of multiple endings. But hey, what do you expect from the biggest evolution in history. Except another game that leaves everything e f else far behind. (Ever been behind a



Look alive! There's more hidden stuff than ever.



Now there are smarter Kremlings out to slap your monkey around. Ouch!

monkey? It ain't pretty.)



Head to Head:

PlayStation
Saturn
3D0
PC CD-ROM
Jaguar
32X
M2
Ultra 64

